# Arts, Design, Entertainment, Sports, and Media Occupations

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## Occupations Included in this Reprint

# Actors, Producers, and Directors

(O*NET 27-2011.00, 27-2012.01, 27-2012.02, 27-2012.03, 27-2012.04, 27-2012.05)

### Significant Points

- Actors endure long periods of unemployment, intense competition for roles, and frequent rejections in auditions.
- Formal training through a university or acting conservatory is typical; however, many actors, producers, and directors find work based on experience and talent alone.
- Because earnings for actors are erratic, many supplement their incomes by holding jobs in other fields.

**Nature of the Work**

Actors, producers, and directors express ideas and create images in theater, film, radio, television, and other performing arts media. They interpret a writer's script to entertain, inform, or instruct an audience. Although the most famous actors, producers, and directors work in film, network television, or theater in New York or Los Angeles, far more work in local or regional television studios, theaters, or film production companies engaged in advertising, public relations, or independent, small-scale movie productions.

*Actors* perform in stage, radio, television, video, or motion picture productions. They also work in cabarets, nightclubs, theme parks, and commercials, and in "industrial" films produced for training and educational purposes. Most actors struggle to find steady work; only a few ever achieve recognition as stars. Some well-known, experienced performers may be cast in supporting roles. Others work as "extras," with no lines to deliver, or make brief, cameo appearances speaking only one or two lines. Some actors also teach in high school or university drama departments, acting conservatories, or public programs.

*Producers* are entrepreneurs, overseeing the business and financial decisions of a production. They select scripts and approve development of script ideas, arrange financing, and determine the size and cost of stage, radio, television, video, or motion picture productions. Producers hire directors, principal cast members, and key production staff members. They also negotiate contracts with artistic and design personnel in accordance with collective bargaining agreements and guarantee payment of salaries, rent, and other expenses. Producers coordinate the activities of writers, directors, managers, and agents to ensure that each project stays on schedule and within budget.


*Actors may perform for television, film, or stage productions.*

*Directors* are responsible for the creative decisions of a production. They interpret scripts, express concepts to set and costume designers, audition and select cast members, conduct rehearsals, and direct the work of cast and crew. Directors approve the design elements of a production, including sets, costumes, choreography, and music.

**Working Conditions**

Actors, producers, and directors work under constant pressure. To succeed, they need patience and commitment to their craft. Actors strive to deliver flawless performances, often while working in undesirable and unpleasant conditions. Producers and directors experience stress from the need to adhere to budgets, union work rules, and production schedules; organize rehearsals; and meet with designers, financial backers, and production executives.

Acting assignments typically are short term—ranging from 1 day to a few months—which means that there often are long periods of unemployment between jobs. The uncertain nature of the work results in unpredictable earnings and intense competition for even the lowest paid jobs. Often, actors, producers, and directors must hold other jobs to sustain a living.

When performing, actors typically work long, irregular hours. For example, stage actors may perform one show at night while rehearsing another during the day. They also might travel with a show when it tours the country. Movie actors may work on location, sometimes under adverse weather conditions, and may spend considerable time in their trailers or dressing rooms waiting to perform their scenes. Actors who perform in television often appear on camera with little preparation time because scripts tend to be revised frequently or written moments before taping.

Evening and weekend work is a regular part of a stage actor's life. On weekends, more than one performance may be held per day. Actors and directors working on movies or television programs, especially those who shoot on location, may work in the early morning or late evening hours to do nighttime filming or to tape scenes inside public facilities outside of normal business hours.

Actors should be in good physical condition and have the necessary stamina and coordination to move about theater stages and large movie and television studio lots. They also need to maneuver about complex technical sets while staying in character and projecting their voices audibly. Actors must be fit to endure heat from stage or studio lights and the weight of heavy costumes. Producers and directors should anticipate such hazards and ensure the safety of actors by conducting extra rehearsals on the set so that actors can learn the layout of set pieces and props, allowing time for warmups and stretching exercises to guard against physical and vocal injuries, and providing adequate breaks to prevent heat exhaustion and dehydration.

**Employment**

In 2000, actors, producers, and directors held about 158,000 jobs, primarily in motion pictures, theater, television, and radio. Because many others were between jobs, the total number of actors, producers, and directors available for work was higher. Employment in the theater is cyclical—higher in the fall and spring seasons—and concentrated in New York and other major cities with large commercial houses for musicals and touring productions. Also, many cities support established professional regional theaters that operate on a seasonal or year-round basis.

In summer, stock companies in suburban and resort areas also provide employment opportunities. Actors, producers, and directors may find work on cruise lines and in theme parks. Many smaller nonprofit professional companies, such as repertory companies, dinner theaters, and theaters affiliated with drama schools, acting conservatories, and universities provide employment opportunities for local amateur talent and professional entertainers. Auditions typically are held in New York for many productions across the country and for shows that go on the road.

Employment in motion pictures and films for television is centered in New York and in Hollywood. However, small studios are located throughout the country. Many films are shot on location and may employ local professional and nonprofessional actors. In television, opportunities are concentrated in the network centers of New York and Los Angeles, but cable television services and local television stations around the country also employ many actors, producers, and directors.

**Training, Other Qualifications, and Advancement**

Persons who become actors, producers, and directors follow many paths. Employers generally look for people with the creative instincts, innate talent, and intellectual capacity to perform. Actors should possess a passion for performing and enjoy entertaining others. Most aspiring actors participate in high school and college plays, work in college radio stations, or perform with local community theater groups. Local and regional theater experience and work in summer stock, on cruise lines, or in theme parks help many young actors hone their skills and earn qualifying credits towards membership in one of the actors' unions. Union membership and work experience in smaller communities may lead to work in larger cities, notably New York or Los Angeles. In television and film, actors and directors typically start in smaller television markets or with independent movie production companies, then work their way up to larger media markets and major studio productions. Intense competition, however, ensures that only a few actors reach star billing.

Formal dramatic training, either through an acting conservatory or a university program, generally is necessary; however, some people successfully enter the field without it. Most people studying for a bachelor's degree take courses in radio and television broadcasting, communications, film, theater, drama, or dramatic literature. Many continue their academic training and receive a Master of Fine Arts (MFA) degree. Advanced curriculums may include courses in stage speech and movement, directing, playwriting, and design, as well as intensive acting workshops.

Actors at all experience levels may pursue workshop training through acting conservatories or by being mentored by a drama coach. Actors also research roles so that they can grasp concepts quickly during rehearsals and understand the story's setting and background. Sometimes actors learn a foreign language or train with a dialect coach to develop an accent to make their characters more realistic.

Actors need talent, creative ability, and training that will enable them to portray different characters. Because competition for parts is fierce, versatility and a wide range of related performance skills, such as singing, dancing, skating, juggling, and miming are especially useful in lifting actors above the average and getting them noticed by producers and directors. Actors must have poise, stage presence, the capability to affect an audience, and the ability to follow direction. Modeling experience also may be helpful. Physical appearance often is a deciding factor in being selected for particular roles.

Many professional actors rely on agents or managers to find work, negotiate contracts, and plan their careers. Agents generally earn a percentage of the pay specified in an actor's contract. Other actors rely solely on attending open auditions for parts. Trade publications list the time, date, and location of these auditions.

To become a movie extra, one must usually be listed by a casting agency, such as Central Casting, a no-fee agency that supplies extras to the major movie studios in Hollywood. Applicants are accepted only when the number of persons of a particular type on the list—for example, athletic young women, old men, or small children—falls below the foreseeable need. In recent years, only a very small proportion of applicants has succeeded in being listed.

There are no specific training requirements for producers. They come from many different backgrounds. Talent, experience, and business acumen are very important determinants of success for producers. Actors, writers, film editors, and business managers commonly enter the field. Also, many people who start out as actors move into directing, while some directors might try their hand at acting. Producers often start in a theatrical management office, working for a press agent, managing director, or business manager. Some start in a performing arts union or service organization. Others work behind the scenes with successful directors, serve on boards of directors, or promote their own projects. No formal training exists for producers; however, a growing number of colleges and universities now offer degree programs in arts management and managing nonprofits.

As the reputations and box-office draw of actors, producers, and directors grow, they might work on bigger budget productions, on network or syndicated broadcasts, or in more prestigious theaters. Actors may advance to lead roles and receive star billing. A few actors move into acting-related jobs, such as drama coaches or directors of stage, television, radio, or motion picture productions. Some teach drama privately or in colleges and universities.

**Job Outlook**

Employment of actors, producers, and directors is expected to grow faster than the average for all occupations through 2010. Although a growing number of people will aspire to enter these professions, many will leave the field early because the work, when it is available, is hard, the hours are long, and the pay is low. Despite faster-than-average employment growth, competition for jobs will be stiff, in part because of the large number of highly trained and talented actors auditioning for roles. Only performers with the most stamina and talent will regularly find employment.

Expanding cable and satellite television operations, increasing production and distribution of major studio and independent films, and continued growth and development of interactive media, such as direct-for-web movies and videos, should increase demand for actors, producers, and directors. A strong Broadway and Off-Broadway community and vibrant regional theater network are expected to offer many job opportunities.

**Earnings**

Median annual earnings of actors were $25,920 in 2000. The middle 50 percent earned between $16,950 and $59,769. The lowest 10 percent earned less than $12,700, and the highest 10 percent earned more than $93,620. Median annual earnings in the industries employing the largest numbers of actors were as follows:

| | |
|---|---|
| Motion picture production and services | $54,440 |
| Producers, orchestras, and entertainers | 28,310 |
| Miscellaneous amusement and recreation services | 13,500 |

Minimum salaries, hours of work, and other conditions of employment are covered in collective bargaining agreements between show producers and the unions representing workers. Actors' Equity Association (Equity) represents stage actors; Screen Actors

Guild (SAG) covers actors in motion pictures, including television, commercials, and films; and the American Federation of Television and Radio Artists (AFTRA) represents television and radio studio performers. While these unions generally determine minimum salaries, any actor or director may negotiate for a salary higher than the minimum.

On July 1, 2001, the members of SAG and AFTRA negotiated a new joint contract covering all unionized employment. Under the contract, motion picture and television actors with speaking parts earned a minimum daily rate of $636 or $2,206 for a 5-day week. Actors also receive contributions to their health and pension plans and additional compensation for reruns and foreign telecasts of the productions in which they appear.

According to Equity, the minimum weekly salary for actors in Broadway productions as of June 25, 2001 was $1,252. Actors in Off-Broadway theaters received minimums ranging from $440 to $551 a week as of October 30, 2000, depending on the seating capacity of the theater. Regional theaters that operate under an Equity agreement pay actors $500 to $728 per week. For touring productions, actors receive an additional $106 per day for living expenses ($112 per day in larger, higher-cost cities). According to Equity, fewer than 15 percent of its dues-paying members actually worked during any given week during 2000. Median earnings for those able to find employment in 2000 were less than $10,000.

Some well-known actors—stars—earn well above the minimum; their salaries are many times the figures cited, creating the false impression that all actors are highly paid. For example, of the nearly 100,000 SAG members, only about 50 might be considered stars. The average income that SAG members earn from acting, less than $5,000 a year, is low because employment is erratic. Therefore, most actors must supplement their incomes by holding jobs in other fields.

Many actors who work more than a set number of weeks per year are covered by a union health, welfare, and pension fund, which includes hospitalization insurance and to which employers contribute. Under some employment conditions, Equity and AFTRA members receive paid vacations and sick leave.

Median annual earnings of producers and directors were $41,030 in 2000. The middle 50 percent earned between $29,000 and $60,330. The lowest 10 percent earned less than $21,050, and the highest 10 percent earned more than $87,770. Median annual earnings in the industries employing the largest numbers of producers and directors were as follows:

| | |
|---|---|
| Motion picture production and services | $50,280 |
| Producers, orchestras, and entertainers | 38,820 |
| Radio and television broadcasting | 34,630 |

Many stage directors belong to the Society of Stage Directors and Choreographers (SSDC), and film and television directors belong to the Directors Guild of America (DAG). Earnings of stage directors vary greatly. According to the SSDC, summer theaters offer compensation, including "royalties" (based on the number of performances), usually ranging from $2,500 to $8,000 for a 3- to 4-week run. Directing a production at a dinner theater usually will pay less than directing one at a summer theater, but has more potential for income from royalties. Regional theaters may hire directors for longer periods, increasing compensation accordingly. The highest paid directors work on Broadway and commonly earn $50,000 per show. However, they also receive payment in the form of royalties—a negotiated percentage of gross box office receipts—that can exceed their contract fee for long-running box office successes.

Producers seldom get a set fee; instead, they get a percentage of a show's earnings or ticket sales.

**Related Occupations**

People who work in performing arts occupations that may require acting skills include announcers; dancers and choreographers; and musicians, singers, and related workers. Others working in theater-related occupations are hairdressers, hairstylists, and cosmetologists; fashion designers; set and exhibit designers; sound engineering technicians; and writers and authors.

**Sources of Additional Information**

For general information about theater arts and a list of accredited college-level programs, contact:

➤ National Association of Schools of Theater, 11250 Roger Bacon Dr., Suite 21, Reston, VA 20190. Internet: **http://www.arts-accredit.org/nast/default.htm**

For general information on actors, producers, and directors, contact:

➤ Actors Equity Association, 165 West 46th St., New York, NY 10036. Internet: **http://www.actorsequity.org**

➤ Screen Actors Guild, 5757 Wilshire Blvd., Los Angeles, CA 90036-3600. Internet: **http://www.sag.org**

➤ American Federation of Television and Radio Artists—Screen Actors Guild, 4340 East-West Hwy., Suite 204, Bethesda, MD 20814-4411. Internet: **http://www.aftra.org** or **http://www.sag.org**

## Announcers

(O*NET 27-3011.00, 27-3012.00)

**Significant Points**

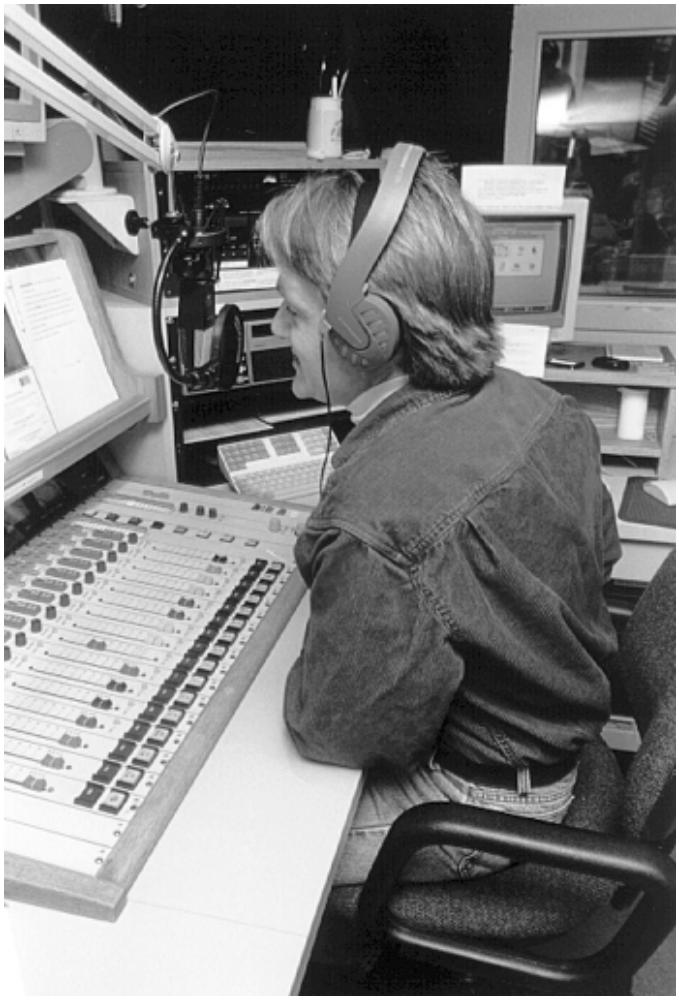
- Competition for announcer jobs will continue to be keen.
- Jobs at small stations usually have low pay, but offer the best opportunities for beginners.
- Related work experience at a campus radio station or as an intern at a commercial station can be helpful in breaking into the occupation.

**Nature of the Work**

Announcers in radio and television perform a variety of tasks on and off the air. They announce station program information such as program schedules and station breaks for commercials or public service information, and they introduce and close programs. Announcers read prepared scripts or ad-lib commentary on the air when presenting news, sports, weather, time, and commercials. If a written script is required, they may do the research and writing. Announcers also interview guests and moderate panels or discussions. Some provide commentary for the audience during sporting events, parades, and other events. Announcers are often well-known to radio and television audiences and may make promotional appearances and remote broadcasts for their stations.

Radio announcers often are called *disc jockeys*. Some disc jockeys specialize in one kind of music. They announce music selections and may decide what music to play. While on the air, they comment on the music, weather, and traffic. They may take requests from listeners, interview guests, and manage listener contests.

*Newscasters* or *anchors* work at large stations and specialize in news, sports, or weather. (See the related statement on news analysts, reporters, and correspondents elsewhere in the *Handbook*.) *Show hosts* may specialize in a certain area of interest such as politics, personal finance, sports, or health. They contribute to the preparation of the program content; interview guests; and discuss issues with viewers, listeners, or an in-studio audience.



*Announcers read prepared scripts or ad-lib commentary on the air.*

Announcers at smaller stations may cover all of these areas and tend to have more off-air duties as well. They may operate the control board, monitor the transmitter, sell commercial time to advertisers, keep a log of the station's daily programming, and do production work. Consolidation and automation make it possible for announcers to do some work previously performed by broadcast technicians. (See the statement on broadcast and sound engineering technicians and radio operators elsewhere in the *Handbook*.) Announcers use the control board to broadcast programming, commercials, and public service announcements according to schedule. Public radio and television announcers are involved with station fundraising efforts.

Announcers frequently participate in community activities. Sports announcers, for example, may serve as masters of ceremonies at sports club banquets or may greet customers at openings of sporting goods stores.

Although most announcers are employed in radio and television broadcasting, some are employed in the cable television or motion picture production industries. Other announcers may use a public address system to provide information to the audience at sporting and other events. Some disc jockeys announce and play music at clubs, dances, restaurants, and weddings.

**Working Conditions**

Announcers usually work in well-lighted, air-conditioned, soundproof studios. The broadcast day is long for radio and TV stations—some are on the air 24 hours a day—so announcers can expect to work unusual hours. Many present early morning shows, when most people are getting ready for work or commuting, while others do late night programs.

Announcers often work within tight schedule constraints, which can be physically and mentally stressful. For many announcers, the intangible rewards—creative work, many personal contacts, and the satisfaction of becoming widely known—far outweigh the disadvantages of irregular and often unpredictable hours, work pressures, and disrupted personal lives.

**Employment**

Announcers held about 71,000 jobs in 2000. Nearly all were staff announcers employed in radio and television broadcasting, but some were freelance announcers who sold their services for individual assignments to networks and stations, or to advertising agencies and other independent producers. Many announcing jobs are part time.

**Training, Other Qualifications, and Advancement**

Entry into this occupation is highly competitive. Formal training in broadcasting from a college or technical school (private broadcasting school) is valuable. Station officials pay particular attention to taped auditions that show an applicant's delivery and—in television—appearance and style on commercials, news, and interviews. Those hired by television stations usually start out as production assistants, researchers, or reporters and are given a chance to move into announcing if they show an aptitude for "on-air" work. Newcomers to TV broadcasting also may begin as news camera operators. (See the statement on television, video, and motion picture camera operators and editors elsewhere in the *Handbook*.) A beginner's chance of landing an on-air job is remote, except possibly for a small radio station. In radio, newcomers usually start out taping interviews and operating equipment.

Announcers usually begin at a station in a small community and, if qualified, may move to a better paying job in a large city. They also may advance by hosting a regular program as a disc jockey, sportscaster, or other specialist. Competition is particularly intense for employment by networks, and employers look for college graduates with at least several years of successful announcing experience.

Announcers must have a pleasant and well-controlled voice, good timing, excellent pronunciation, and must know correct grammar usage. Television announcers need a neat, pleasing appearance as well. Knowledge of theater, sports, music, business, politics, and other subjects likely to be covered in broadcasts improves chances for success. Announcers also must be computer-literate because programming is created and edited by computer. In addition, they should be able to ad-lib all or part of a show and to work under tight deadlines. The most successful announcers attract a large audience by combining a pleasing personality and voice with an appealing style.

High school and college courses in English, public speaking, drama, foreign languages, and computer science are valuable, and hobbies such as sports and music are additional assets. Students may gain valuable experience at campus radio or TV facilities and at commercial stations while serving as interns. Paid or unpaid internships provide students with hands-on training and the chance to establish contacts in the industry. Unpaid interns often receive college credit and are allowed to observe and assist station employees. Although the Fair Labor Standards Act limits the work unpaid interns may perform in a station, unpaid internships are the rule; sometimes they lead to paid internships. Paid internships are valuable because interns do work ordinarily done by regular employees and may even go on the air.

Persons considering enrolling in a broadcasting school should contact personnel managers of radio and television stations as well as broadcasting trade organizations to determine the school's reputation for producing suitably trained candidates.

**Job Outlook**

Competition for jobs as announcers will be keen because the broadcasting field attracts many more job seekers than there are jobs. Small radio stations are more inclined to hire beginners, but the pay is low. Interns usually receive preference for available positions. Because competition for ratings is so intense in major metropolitan areas, large stations will continue to seek announcers who have proven that they can attract and retain a large audience.

Announcers who are knowledgeable in business, consumer, and health news may have an advantage over others. While specialization is more common at large stations and the networks, many small stations also encourage it.

Employment of announcers is expected to decline through 2010 due to the lack of growth of new radio and television stations. Openings in this relatively small field also will arise from the need to replace those who transfer to other kinds of work or leave the labor force. Some announcers leave the field because they cannot advance to better paying jobs. Changes in station ownership, format, and ratings frequently cause periods of unemployment for many announcers.

Increasing consolidation of radio and television stations, new technology, and the growth of alternative media sources will contribute to the expected decline in employment of announcers. Consolidation in broadcasting may lead to increased use of syndicated programming and programs originating outside a station's viewing or listening area. Digital technology will increase the productivity of announcers, reducing the time spent on off-air technical and production work. In addition, all traditional media, including radio and television, may suffer losses in audience as the American public increases its use of personal computers.

**Earnings**

Salaries in broadcasting vary widely but in general are relatively low, except for announcers who work for large stations in major markets or for networks. Earnings are higher in television than in radio and higher in commercial than in public broadcasting.

Median hourly earnings of announcers in 2000 were $9.52. The middle 50 percent earned between $6.84 and $14.28. The lowest 10 percent earned less than $5.94, and the highest 10 percent earned more than $24.35. Median hourly earnings of announcers in 2000 were $9.54 in the radio and television broadcasting industry.

**Related Occupations**

The success of announcers depends upon how well they communicate. Others who must be skilled at oral communication include news analysts, reporters, and correspondents; interpreters and translators; sales and related occupations; public relations specialists; and teachers. Many announcers also must entertain their audience, so their work is similar to other entertainment-related occupations such as actors, directors, and producers; dancers and choreographers; and musicians, singers, and related workers.

**Sources of Additional Information**

General information on the broadcasting industry is available from:

➤ National Association of Broadcasters, 1771 N St. NW., Washington, DC 20036. Internet: **http://www.nab.org**

# Artists and Related Workers

(O*NET 27-1011.00, 27-1013.01, 27-1013.02, 27-1013.03, 27-1013.04, 27-1014.00)

**Significant Points**

- More than half are self-employed—about 7 times the proportion in all professional and related occupations.
- Artists usually develop their skills through a bachelor's degree program or other postsecondary training in art or design.
- Keen competition is expected for both salaried jobs and freelance work, because many talented people are attracted to the visual arts.

**Nature of the Work**

Artists create art to communicate ideas, thoughts, or feelings. They use a variety of methods—painting, sculpting, or illustration—and an assortment of materials, including oils, watercolors, acrylics, pastels, pencils, pen and ink, plaster, clay, and computers. Artists' works may be realistic, stylized, or abstract and may depict objects, people, nature, or events.

Artists generally fall into one of three categories. *Art directors* formulate design concepts and presentation approaches for visual communications media. *Fine artists, including painters, sculptors, and illustrators* create original artwork using a variety of media and techniques. *Multi-media artists and animators* create special effects, animation, or other visual images using film, video, computers or other electronic media. (Designers, including graphic designers, are discussed elsewhere in the *Handbook*.)

*Art directors* develop design concepts and review the material that is to appear in periodicals, newspapers, and other printed or digital media. They decide how best to present the information visually, so it is eye-catching, appealing, and organized. They decide which photographs or artwork to use and oversee the layout design and production of the printed material. They may direct workers engaged in art work, layout design, and copy writing.

*Fine artists* typically display their work in museums, commercial art galleries, corporate collections, and private homes. Some of their artwork may be commissioned (done on request from clients), but most is sold by the artist or through private art galleries or dealers. The gallery and artist predetermine how much each will earn from the sale. Only the most successful fine artists are able to support themselves solely through the sale of their works. Most fine artists must work in an unrelated field to support their art careers. Some work in museums or art galleries as fine arts directors or as curators, who plan and set up art exhibits. Others work as art critics for newspapers or magazines, or as consultants to foundations or institutional collectors.

Usually, fine artists specialize in one or two art forms, such as painting, illustrating, sketching, sculpting, printmaking, and restoring. *Painters, illustrators, cartoonists, and sketch artists* work with two-dimensional art forms. These artists use shading, perspective, and color to produce realistic scenes or abstractions.

*Illustrators* typically create pictures for books, magazines, and other publications; and commercial products, such as textiles, wrapping paper, stationery, greeting cards and calendars. Increasingly, illustrators work in digital format, preparing work directly on a computer.

*Medical* and *scientific illustrators* combine drawing skills with knowledge of the biological sciences. Medical illustrators draw illustrations of human anatomy and surgical procedures. Scientific illustrators draw illustrations of animals and plants. These

illustrations are used in medical and scientific publications and in audiovisual presentations for teaching purposes. Medical illustrators also work for lawyers, producing exhibits for court cases.

*Cartoonists* draw political, advertising, social, and sports cartoons. Some cartoonists work with others who create the idea or story and write the captions. Most cartoonists have comic, critical, or dramatic talents in addition to drawing skills.

*Sketch artists* create likenesses of subjects using pencil, charcoal, or pastels. Sketches are used by law enforcement agencies to assist in identifying suspects, by the news media to depict courtroom scenes, and by individual patrons for their own enjoyment.

*Sculptors* design three-dimensional art works—either by molding and joining materials such as clay, glass, wire, plastic, fabric, or metal or by cutting and carving forms from a block of plaster, wood, or stone. Some sculptors combine various materials to create mixed-media installations. Some incorporate light, sound, and motion into their works.

*Printmakers* create printed images from designs cut or etched into wood, stone, or metal. After creating the design, the artist inks the surface of the woodblock, stone, or plate and uses a printing press to roll the image onto paper or fabric. Some make prints by pressing the inked surface onto paper by hand, or by graphically encoding data and processing it, using a computer. The digitized images are printed on paper using computer printers.

*Painting restorers* preserve and restore damaged and faded paintings. They apply solvents and cleaning agents to clean the surfaces, reconstruct or retouch damaged areas, and apply preservatives to protect the paintings. This is very detailed work and usually is reserved for experts in the field.

*Fine artists, such as sculptors, often work in private studios.*

*Multi-media artists and animators* work primarily in computer and data processing services, advertising, and the motion picture and television industries. They draw by hand and use computers to create the large series of pictures that form the animated images or special effects seen in movies, television programs, and computer games. Some draw storyboards for television commercials, movies, and animated features. Storyboards present television commercials in a series of scenes similar to a comic strip and allow an advertising agency to evaluate proposed commercials with the company doing the advertising. Storyboards also serve as guides to placing actors and cameras and to other details during the production of commercials.

**Working Conditions**

Most artists work in fine or commercial art studios located in office buildings, or in private studios in their homes. Some fine artists share studio space, where they also may exhibit their work. Studio surroundings usually are well lighted and ventilated; however, fine artists may be exposed to fumes from glue, paint, ink, and other materials. Artists who sit at drafting tables or use computers for extended periods may experience back pain, eyestrain, or fatigue.

Artists employed by publishing companies, advertising agencies, and design firms generally work a standard 40-hour week. During busy periods, they may work overtime to meet deadlines. Self-employed artists can set their own hours, but may spend much time and effort selling their artwork to potential customers or clients and building a reputation.

**Employment**

Artists held about 147,000 jobs in 2000. More than half were self-employed. Of the artists who were not self-employed, many worked in motion picture, television, computer software, printing, publishing, and public relations firms. Some self-employed artists offer their services to advertising agencies, design firms, publishing houses, and other businesses.

**Training, Other Qualifications, and Advancement**

Training requirements for artists vary by specialty. Although formal training is not strictly necessary for fine artists, it is very difficult to become skilled enough to make a living without some training. Many colleges and universities offer degree programs leading to the Bachelor in Fine Arts (BFA) and Master in Fine Arts (MFA) degrees. Coursework usually includes core subjects, such as English, social science, and natural science, in addition to art history and studio art.

Independent schools of art and design also offer postsecondary studio training in the fine arts leading to an Associate in Art (AA) or Bachelor in Fine Arts (BFA) degree. Typically, these programs focus more intensively on studio work than the academic programs in a university setting.

Formal educational programs in art also provide training in computer techniques. Computers are used widely in the visual arts, and knowledge and training in them are critical for many jobs in these fields.

Those who want to teach fine arts at pubic elementary or secondary schools must have a teaching certificate in addition to a bachelor's degree. An advanced degree in fine arts or arts administration is necessary for management or administrative positions in government or in foundations or for teaching in colleges and universities. (See the statements for teachers-postsecondary; and teachers-preschool, kindergarten, elementary, middle, and secondary school teachers elsewhere in the *Handbook*.)

Illustrators learn drawing and sketching skills through training in art programs and extensive practice. Most employers prefer candidates with a bachelor's degree; however, some illustrators are contracted based on their portfolios of past work.

Medical illustrators must have both a demonstrated artistic ability and a detailed knowledge of living organisms, surgical and medical procedures, and human and animal anatomy. A 4-year bachelor's degree combining art and premedical courses usually is preferred, followed by a master's degree in medical illustration. This degree is offered in only five accredited schools in the United States.

Evidence of appropriate talent and skill, displayed in an artist's portfolio, is an important factor used by art directors, clients, and others in deciding whether to hire or contract out work. The portfolio is a collection of hand-made, computer-generated, photographic, or printed samples of the artist's best work. Assembling a successful portfolio requires skills usually developed in a bachelor's degree program or other postsecondary training in art or visual communications. Internships also provide excellent opportunities for artists to develop and enhance their portfolios.

Artists hired by advertising agencies often start with relatively routine work. While doing this work, however, they may observe and practice their skills on the side. Many artists freelance on a part-time basis while continuing to hold a full-time job until they are established. Others freelance part-time while still in school, to develop experience and to build a portfolio of published work.

Freelance artists try to develop a set of clients who regularly contract for work. Some freelance artists are widely recognized for their skill in specialties such as magazine or children's book illustration. These artists may earn high incomes and can pick and choose the type of work they do.

Fine artists advance professionally as their work circulates and as they establish a reputation for a particular style. Many of the most successful artists continually develop new ideas, and their work often evolves over time.

**Job Outlook**

Employment of artists and related workers is expected to grow as fast as the average for all occupations through the year 2010. Because the arts attract many talented people with creative ability, the number of aspiring artists continues to grow. Consequently, competition for both salaried jobs and freelance work in some areas is expected to be keen.

Art directors work in a variety of industries, such as printing, publishing, motion picture production and distribution, and design. Despite an expanding number of opportunities, they should experience keen competition for the available openings.

Fine artists mostly work on a freelance, or commission, basis and may find it difficult to earn a living solely by selling their artwork. Only the most successful fine artists receive major commissions for their work. Competition among artists for the privilege of being shown in galleries is expected to remain acute. And grants from sponsors such as private foundations, State and local arts councils, and the National Endowment for the Arts, should remain competitive. Nonetheless, studios, galleries, and individual clients are always on the lookout for artists who display outstanding talent, creativity, and style. Population growth, rising incomes, and growth in the number of people who appreciate the fine arts will contribute to the demand for fine artists. Talented fine artists who have developed a mastery of artistic techniques and skills, including computer skills, will have the best job prospects.

The need for artists to illustrate and animate materials for magazines, journals, and other printed or electronic media will spur demand for illustrators and animators of all types. Growth in the entertainment industry, including cable and other pay television broadcasting and motion picture production and distribution, will provide new job opportunities for illustrators, cartoonists, and animators. Competition for most jobs, however, will be strong, because job opportunities are relatively few and the number of people interested in these positions usually exceeds the number of available openings. Employers should be able to choose from among the most qualified candidates.

**Earnings**

Median annual earnings of salaried art directors were $56,880 in 2000. The middle 50 percent earned between $41,290 and $80,350. The lowest 10 percent earned less than $30,130, and the highest 10 percent earned more than $109,440. Median annual earnings were $63,510 in advertising, the industry employing the largest numbers of salaried art directors.

Median annual earnings of salaried fine artists, including painters, sculptors, and illustrators were $31,190 in 2000. The middle 50 percent earned between $20,460 and $42,720. The lowest 10 percent earned less than $14,690, and the highest 10 percent earned more than $58,580.

Median annual earnings of salaried multi-media artists and animators were $41,130 in 2000. The middle 50 percent earned between $30,700 and $54,040. The lowest 10 percent earned less than $23,740, and the highest 10 percent earned more than $70,560. Median annual earnings were $44,290 in computer and data processing services, the industry employing the largest numbers of salaried multi-media artists and animators.

Earnings for self-employed artists vary widely. Some charge only a nominal fee while they gain experience and build a reputation for their work. Others, such as well-established freelance fine artists and illustrators, can earn more than salaried artists. Many, however, find it difficult to rely solely on income earned from selling paintings or other works of art. Like other self-employed workers, freelance artists must provide their own benefits.

**Related Occupations**

Other workers who apply art skills include architects, except landscape and naval; archivists, curators, and museum technicians; designers; landscape architects; and photographers. Some computer-related occupations require art skills, including computer software engineers and desktop publishers.

**Sources of Additional Information**

For general information about art and design and a list of accredited college-level programs, contact:

➤ The National Association of Schools of Art and Design, 11250 Roger Bacon Dr., Suite 21, Reston, VA 20190. Internet: **http://www.arts-accredit.org/nasad/default.htm**

For information on careers in medical illustration, contact:

➤ The Association of Medical Illustrators, 2965 Flowers Road South, Suite 105, Atlanta, GA 30341. Internet: **http://medical-illustrators.org**

## Athletes, Coaches, Umpires, and Related Workers

(O*NET 27-2021.00, 27-2022.00, 27-2023.00)

**Significant Points**

- Work hours are often irregular; travel may be extensive.
- Very few athletes, coaches, umpires and related workers make it to professional rank; career-ending injuries are a constant danger for athletes.
- Job opportunities for coaches, sports instructors, and sports officials will be best in high school and other amateur sports.

**Nature of the Work**

We are a nation of sports fans—and sports players. Interest in watching sports continues to grow, resulting in expanding leagues, completely new leagues, and more and larger venues in which to witness amateur and professional competitions. Recreational participation in sports is at an all-time high as the general population seeks the benefits of sport and exercise for its positive effect on overall health and well being. Some of those who participate in amateur sports dream of becoming paid professional athletes, coaches, or sports officials, but very few beat the long odds and have the opportunity to make a living from professional athletics. Those who do find that careers are short and jobs are insecure—so having an alternative plan for a career is essential. For many, that alternative is a job in the ranks of coaches in amateur athletics, teaching and directing their sports in high schools, colleges and universities, and clubs.

*Athletes* and *sports competitors* compete in organized, officiated sports events to entertain spectators. When playing a game, athletes are required to understand the strategies of their game while obeying the rules and regulations of the sport. These events include both team sports—such as baseball, basketball, football, hockey, and soccer—and individual sports—such as golf, tennis, and bowling. As the type of sport varies, so does the level of play, ranging from unpaid high school athletics to professional sports in which the best from around the world compete before national television audiences.

In addition to competing in athletic events, athletes spend many hours practicing skills and teamwork under the guidance of a coach or sports instructor. Most athletes spend hours in hard practices every day. They also spend additional hours viewing films, critiquing their own performances and techniques and scouting their opponents tendencies and weaknesses. Some athletes may also be advised by *strength trainers* in an effort to gain muscle and stamina, while also preventing injury. Competition at all levels is extremely intense and job security is always precarious. As a result, many athletes train year round to maintain excellent form, technique, and peak physical condition; very little downtime from the sport exists at the professional level. Athletes also must conform to regimented diets during the height of their sports season to supplement any physical training program. Many athletes push their bodies to the limit, so career-ending injury is always a risk. Even minor injuries to an athlete may be sufficient opportunity for another athlete to play, excel, and become a permanent replacement.

*Coaches* organize, instruct, and teach amateur and professional athletes in fundamentals of individual and team sports. In individual sports, *instructors* may often fill this role. Coaches train athletes for competition by holding practice sessions to perform drills and improve the athlete's skills and conditioning. Using their expertise in the sport, coaches instruct the athlete on proper form and technique in beginning and later in advanced exercises attempting to maximize the players potential. Along with overseeing athletes as they refine their individual skills, coaches also are responsible for managing the team during both practice sessions and competitions. They may also select, store, issue, and inventory equipment, materials, and supplies. During competitions, for example, coaches substitutes players for optimum team chemistry and success. In addition, coaches direct team strategy and may call specific plays during competition to surprise or overpower the opponent. To choose the best plays, coaches evaluate or "scout" the opposing team prior to the competition, allowing them to determine game strategies and practice specific plays.

As coaches, advocating good sportsmanship, promoting a competitive spirit, tutoring fairness, and teaching teamwork are all important responsibilities. Many coaches in high schools are primarily teachers of academic subjects and supplement their income by coaching part-time. College coaches consider it a full-time discipline and may be away from home frequently as they travel to scout and recruit prospective players. Coaches sacrifice many hours of their free time throughout their careers, particularly full-time coaches at the professional level, whose seasons are much longer than those at the amateur level.

*Sports instructors* teach professional and nonprofessional athletes on an individual basis. They organize, instruct, train, and lead athletes of indoor and outdoor sports such as bowling, tennis, golf, and swimming. Because activities are as diverse as weight lifting, gymnastics, scuba diving, and may include self-defense training such as karate, instructors tend to specialize in one or a few types of activities. Like a coach, sports instructors may also hold daily practice sessions and be responsible for any needed equipment and supplies. Using their knowledge of their sport, physiology, and corrective techniques, they determine the type and level of difficulty of exercises, prescribe specific drills, and relentlessly correct individuals' techniques. Some instructors also teach and demonstrate use of training apparatus, such as trampolines or weights, while correcting athlete's weaknesses and enhancing their conditioning. Using their expertise in the sport, sports instructors evaluate the athlete and their opponents to devise a competitive game strategy.

Coaches and sports instructors sometimes differ in their approach to athletes because of the focus of their work. For example, while coaches manage the team during a game to optimize its chance for victory, sports instructors—such as those who work for professional tennis players—often are not permitted to instruct their athletes during competition. Sports instructors spend more of their time with athletes working one-on-one, allowing them to design customized training programs for each individual they train. Motivating athletes to play hard challenges most coaches and sports instructors but is vital for success. Many derive great satisfaction working with children or young adults, helping them to learn new physical and social skills, improving their physical condition, while also achieving success.

*Umpires, referees, and other sports officials* officiate competitive athletic and sporting events. They observe the play and detect infractions of rules and impose penalties established by the sports' regulations. Umpires, referees, and sports officials anticipate play and position themselves to best see the action, assess the situation, and determine any violations. Some sports officials, such as boxing referees, may work independently, while others such as umpires—the sports officials of baseball—work in groups. Regardless of the sport, the job is highly stressful because officials are often required to assess the play and make a decision in a matter of a split

*Athletes generally work outdoors, and most participate seasonally.*

second and some competitors, coaches, and spectators are likely to disagree strenuously.

Professional *scouts* evaluate the skills of both amateur and professional athletes to determine talent and potential. As a sports intelligence agent, the scout's primary duty is to seek out top athletic candidates for the team they represent, ultimately contributing to team success. At the professional level, scouts typically work for scouting organizations, or more often as freelance scouts. In locating new talent, scouts perform their work in secrecy so as to not tip off players that interest them to their opponents. At the college level, the head scout is often an assistant coach, although freelance scouts may aid colleges by providing reports about exceptional players to coaches. Scouts at this level seek talented high school athletes by reading newspapers, contacting high school coaches and alumni, attending high school games, and studying videotapes of prospects' performances.

**Working Conditions**

Irregular work hours are the trademark of the athlete. They are also common for the coach, and full-time umpires, referees, and other sports officials. Athletes, coaches, and sports officials often work Saturdays, Sundays, evenings, and even holidays. They usually work more than 40 hours a week for several months during the sports season, if not most of the year. Some coaches in educational institutions may coach more than one sport, particularly at the high school level.

Athletes, coaches, and sports officials who participate in competitions that are held outdoors may be exposed to all weather conditions of the season; those involved in events that are held indoors work in more climate-controlled comfort. Athletes, coaches, and some sports officials travel frequently to sporting events by either by bus or airplane. Scouts also travel extensively in locating talent, often by automobile.

**Employment**

Athletes, coaches, and sports officials and related workers held about 129,000 jobs in 2000. Coaches and scouts held 99,000 jobs; athletes, 18,000; and umpires, referees, and other sports officials, 11,000. Nearly 30 percent were self-employed, earning prize money or fees for lessons, scouting or officiating assignments, or other services. Among the 70 percent employed in wage and salary jobs, nearly half held jobs in public and private education. About 29 percent worked in miscellaneous amusement and recreation services, including golf and tennis clubs, gymnasiums, health clubs, judo and karate schools, riding stables, swim clubs, and other sports and recreation related facilities. About 11 percent worked in the commercial sports industry.

**Training, Other Qualifications, and Advancement**

Education and training requirements for athletes, coaches, and sports officials vary greatly by the level and type of sport. Regardless of the sport or occupation, jobs require immense overall knowledge of the game, usually acquired through years of experience at lower levels. Athletes usually begin competing in their sports while in elementary or middle school and continue through high school and often college. They play in amateur tournaments and on high school and college teams, where the best attract the attention of professional scouts. Most schools require that participating athletes maintain specific academic standards to remain eligible to play. Becoming a professional athlete is the culmination of years of effort. Athletes who seek to compete professionally must have extraordinary talent, desire, and dedication to training.

For high school coach and sports instructor jobs, schools usually first look to hire existing teachers willing to take on the jobs part time. If no one suitable is found they hire someone from outside. Some entry-level positions for coaches or instructors only require experience derived as a participant in the sport or activity. Many coaches begin their careers as assistant coaches to gain the necessary knowledge and experience needed to become a head coach. Head coach jobs at larger schools that strive to compete at the highest levels of a sport require substantial experience as a head coach at another school or as an assistant coach. To reach the ranks of professional coaching, it usually takes years of coaching experience and a winning record in the lower ranks.

Public secondary school coaches and sports instructors at all levels usually must have a bachelor's degree and meet State requirements for licensure as a teacher. (For information on teachers, including those specializing in physical education, see the section on teachers—preschool, kindergarten, elementary, middle, and secondary elsewhere in the *Handbook.)* Licensure may not be required for coach and sports instructor jobs in private schools. Degree programs specifically related to coaching include exercise and sports science, physiology, kinesiology, nutrition and fitness, physical education, and sports medicine.

For sports instructors, certification is highly desirable for those interested in becoming a tennis, golf, karate, or any other kind of instructor. Often one must be at least 18 years old and CPR certified. There are many certifying organizations specific to the various sports and their training requirements vary depending on their standards. Participation in a clinic, camp, or school usually is required for certification. Part-time workers and those in smaller facilities are less likely to need formal education or training.

Each sport has specific requirements for umpires, referees, and other sports officials. Referees, umpires, and other sports officials often begin their careers by volunteering for intramural, community, and recreational league competitions. For high school and college refereeing, candidates must be certified by an officiating school and get through a probationary period for evaluation. Some larger college conferences often require officials to have certification and other qualifications, such as residence in or near the conference boundaries along with previous experience that typically includes several years officiating high school, community college, or other college conference games.

Standards are even more stringent for officials in professional sports. For professional baseball umpire jobs, for example, a high school diploma or equivalent is usually sufficient, plus 20/20 vision and quick reflexes. To qualify for the professional ranks, however, prospective candidates must attend professional umpire training school. Currently, there are two schools whose curriculums have been approved by the Professional Baseball Umpires Corporation (PBUC) for training. Top graduates are then selected for further evaluation while officiating in a rookie minor league. Umpires then usually need 8 to 10 years of experience in various minor leagues before being considered for major league jobs.

Jobs as scouts require experience playing a sport at the college or professional level that enables them to spot young players who possess extraordinary athletic abilities and skills. Most beginning scout jobs are as part-time talent spotters in a particular area or region. Hard work and a record of success often lead to full-time jobs responsible for bigger territories. Some scouts advance to scouting director jobs or various administrative positions in sports.

Athletes, coaches, and sports officials must relate well to others and possess good communication and leadership skills. Coaches also must be resourceful and flexible to successfully instruct and motivate individuals or groups of athletes.

**Job Outlook**

Jobs for athletes, coaches, umpires, and related workers are expected to increase about as fast as the average for all occupations through

the year 2010. Employment will grow as the public continues to increasingly participate in sports as a form of entertainment, recreation, and physical conditioning. Job growth will in part be driven by the growing numbers of baby boomers approaching retirement, where they are expected to become more active participants of leisure time activities such as golf and tennis and require instruction. The large numbers of the children of baby boomers in high schools and colleges will also be active participants in athletics and require coaches and instructors.

Opportunities will be best for coaches and instructors as employment increases about as fast as the average. A higher value is being placed upon physical fitness within our society with Americans of all ages engaging in more physical fitness activities, such as participating in amateur athletic competition, joining athletic clubs, and being encouraged to participate in physical education. Employment of coaches and instructors also will increase with expansion of school and college athletic programs and growing demand for private sports instruction. Employment growth within education will continue to be driven largely by local school boards. Population growth dictates the construction of additional schools, particularly in the expanding suburbs. However, funding for athletic programs is often one of the first areas to be cut when budgets become tight, but the popularity of team sports often enables shortfalls to be offset somewhat by assistance from booster clubs and parents. Persons seeking coach or instructor jobs who are qualified to teach academic subjects in addition to physical education are likely to have the best job prospects.

Competition for professional athlete jobs should continue to be intense. Employment will increase as new professional sports leagues are established and existing ones undergo expansion. Opportunities to make a living as a professional in individual sports such as golf, tennis, and others should grow as new tournaments are added and prize money distributed to participants grows. Most athlete's professional careers last only several years due to debilitating injuries and age, so a large proportion of the athletes in these jobs are replaced every year, creating job opportunities. However, a far greater number of talented young men and women dream of becoming a sports superstar and will be competing for limited opportunities.

Opportunities should be favorable for persons seeking part-time umpire, referee, and other sports official jobs in high school level amateur sports, but competition is expected for higher paying jobs at the college level, and even greater competition for jobs in professional sports. Competition is expected to be keen for jobs as scouts, particularly for professional teams.

**Earnings**

Median annual earnings of athletes were $32,700 in 2000. The lowest 10 percent earned less than $12,630, but more than 25 percent earned $145,600 or more annually.

Median annual earnings of umpires and related workers were $18,540 in 2000. The middle 50 percent earned between $14,310 and $28,110. The lowest 10 percent earned less than $12,550, and the highest 10 percent earned more than $35,830.

Median annual earnings of coaches and scouts were $28,020 in 2000. The middle 50 percent earned between $17,870 and $41,920. The lowest 10 percent earned less than $13,210, and the highest 10 percent earned more than $58,520. Median annual earnings in the industries employing the largest number of coaches and scouts in 2000 were as follows:

| | |
|---|---|
| Colleges and universities | 32,880 |
| Elementary and secondary schools | 27,970 |
| Miscellaneous amusement, recreation services | 23,650 |

Earnings vary by education level, certification, and geographic region. Some instructors and coaches are paid a salary, while others may be paid by the hour, per session, or based on the number of participants.

**Related Occupations**

Athletes and coaches have extensive knowledge of physiology and sports, and instruct, inform, and encourage participants. Other workers with similar duties include dietitians and nutritionists; physical therapists; recreation and fitness workers; recreational therapists; and teachers—preschool, kindergarten, elementary, middle, and secondary.

**Sources of Additional Information**

For general information on coaching, contact:

➤ National High School Athletic Coaches Association, P.O. Box 4342, Hamden, CT 06514. Internet: **http://www.hscoaches.org**

For information about athletics at the collegiate level, contact:

➤ National Collegiate Athletic Association, 700 W. Washington St., P.O. Box 6222, Indianapolis, IN 46206-6222. Internet: **http://www.ncaa.org**

For information about sports officiating team and individual sports, contact:

➤ National Association of Sports Officials, 2017 Lathrop Ave., Racine, WI 53405. Internet: **http://www.naso.org**

## Broadcast and Sound Engineering Technicians and Radio Operators

(O*NET 27-4011.00, 27-4012.00, 27-4013.00, 27-4014.00)

### Significant Points

- Job applicants will face strong competition for the better paying jobs at radio and television stations serving large cities.
- Television stations employ, on average, many more technicians than do radio stations.
- Evening, weekend, and holiday work is common.

**Nature of the Work**

Broadcast and sound engineering technicians install, test, repair, set up, and operate the electronic equipment used to record and transmit radio and television programs, cable programs, and motion pictures. They work with television cameras, microphones, tape recorders, lighting, sound effects, transmitters, antennas, and other equipment. Some broadcast and sound engineering technicians produce movie soundtracks in motion picture production studios, control the sound of live events, such as concerts, or record music in a recording studio.

In the control room of a radio or television-broadcasting studio, these technicians operate equipment that regulates the signal strength, clarity, and range of sounds and colors of recordings or broadcasts. They also operate control panels to select the source of the material. Technicians may switch from one camera or studio to another, from film to live programming, or from network to local programming. By means of hand signals and, in television, telephone headsets, they give technical directions to other studio personnel.

*Audio and video equipment operators* operate specialized electronic equipment to record stage productions, live programs or events, and studio recordings. They edit and reproduce tapes for compact discs, records and cassettes, for radio and television broadcasting and for motion picture productions. The duties of audio and video equipment operators can be divided into two categories: technical and production activities used in the production of sound

*Broadcast and sound engineering technicians and radio operators work with television cameras, microphones, tape recorders, lighting, sound effects, transmitters, antennas, and other equipment.*

and picture images for film or videotape from set design to camera operation and post production activities where raw images are transformed to a final print or tape.

*Radio operators* mainly receive and transmit communications using a variety of tools. They are also responsible for repairing equipment using such devices as electronic testing equipment, hand tools, and power tools. These help to maintain communication systems in an operative condition.

Broadcast and sound engineering technicians and radio operators perform a variety of duties in small stations. In large stations and at the networks, technicians are more specialized, although job assignments may change from day to day. The terms "operator," "engineer," and "technician" often are used interchangeably to describe these jobs. *Transmitter operators* monitor and log outgoing signals and operate transmitters. *Maintenance technicians* set up, adjust, service, and repair electronic broadcasting equipment. *Audio control engineers* regulate volume and sound quality of television broadcasts, while *video control engineers* regulate their fidelity, brightness, and contrast. *Recording engineers* operate and maintain video and sound recording equipment. They may operate equipment designed to produce special effects, such as the illusions of a bolt of lightning or a police siren. *Sound mixers* or *re-recording mixers* produce the sound track of a movie, television, or radio program. After filming or recording, they may use a process called dubbing to insert sounds. *Field technicians* set up and operate broadcasting portable field transmission equipment outside the studio. Television news coverage requires so much electronic equipment, and the technology is changing so rapidly, that many stations assign technicians exclusively to news.

*Chief engineers*, *transmission engineers*, and *broadcast field supervisors* supervise the technicians who operate and maintain broadcasting equipment.

**Working Conditions**

Broadcast, sound engineering, audio and video equipment technicians, and radio operators generally work indoors in pleasant surroundings. However, those who broadcast news and other programs from locations outside the studio may work outdoors in all types of weather. Technicians doing maintenance may climb poles or antenna towers, while those setting up equipment do heavy lifting.

Technicians in large stations and the networks usually work a 40-hour week under great pressure to meet broadcast deadlines, but may occasionally work overtime. Technicians in small stations routinely work more than 40 hours a week. Evening, weekend, and holiday work is usual, because most stations are on the air 18 to 24 hours a day, 7 days a week.

Those who work on motion pictures may be on a tight schedule to finish according to contract agreements.

**Employment**

Broadcast and sound engineering technicians and radio operators held about 87,000 jobs in 2000. Their employment was distributed among the following detailed occupations:

| | |
|---|---|
| Audio and video equipment technicians | 37,000 |
| Broadcast technicians | 36,000 |
| Sound engineering technicians | 11,000 |
| Radio operators | 2,900 |

About 1 out of 3 worked in radio and television broadcasting. Almost 15 percent worked in the motion picture industry. About 4 percent worked for cable and other pay- television services. A few were self-employed. Television stations employ, on average, many more technicians than do radio stations. Some technicians are employed in other industries, producing employee communications, sales, and training programs. Technician jobs in television are located in virtually all cities, whereas jobs in radio are also found in many small towns. The highest paying and most specialized jobs are concentrated in New York City, Los Angeles, Chicago, and Washington, DC—the originating centers for most network programs. Motion picture production jobs are concentrated in Los Angeles and New York City.

**Training, Other Qualifications, and Advancement**

The best way to prepare for a broadcast and sound engineering technician job is to obtain technical school, community college, or college training in broadcast technology or in engineering or electronics. This is particularly true for those who hope to advance to supervisory positions or jobs at large stations or the networks. In the motion picture industry people are hired as apprentice editorial assistants and work their way up to more skilled jobs. Employers in the motion picture industry usually hire experienced freelance technicians on a picture-by-picture basis. Reputation and determination are important in getting jobs.

Beginners learn skills on the job from experienced technicians and supervisors. They often begin their careers in small stations and, once experienced, move on to larger ones. Large stations usually only hire technicians with experience. Many employers pay tuition and expenses for courses or seminars to help technicians keep abreast of developments in the field.

Audio and video equipment technicians generally need a high school diploma. Many recent entrants have a community college degree or various other forms of post-secondary degrees, although that is not always a requirement. They may substitute on-the-job training for formal education requirements. Experience in a recording studio, as an assistant, is a great way of getting experience and knowledge simultaneously.

Radio operators do not usually require any formal training. This is an entry-level position that generally requires on-the-job training.

The Federal Communications Commission no longer requires the licensing of broadcast technicians, as the Telecommunications Act of 1996 eliminated this licensing requirement. Certification by the Society of Broadcast Engineers is a mark of competence and experience. The certificate is issued to experienced technicians who pass an examination. By offering the Radio Operator and the Television Operator levels of certification, the Society of Broadcast Engineers has filled the void left by the elimination of the FCC license.

Prospective technicians should take high school courses in math, physics, and electronics. Building electronic equipment from hobby kits and operating a "ham," or amateur radio, are good experience, as is work in college radio and television stations.

Broadcast and sound engineering technicians and radio operators must have manual dexterity and an aptitude for working with electrical, electronic, and mechanical systems and equipment.

Experienced technicians can become supervisory technicians or chief engineers. A college degree in engineering is needed to become chief engineer at a large TV station.

**Job Outlook**

People seeking entry-level jobs as technicians in the field of radio and television broadcasting are expected to face strong competition in major metropolitan areas, where pay generally is higher and the number of qualified job seekers exceed the number of openings. There, stations seek highly experienced personnel. Prospects for entry-level positions generally are better in small cities and towns for beginners with appropriate training.

The overall employment of broadcast and sound engineering technicians and radio operators is expected to grow about as fast as the average for all occupations through the year 2010. An increase in the number of programming hours should require additional technicians. However, employment growth in radio and television broadcasting may be tempered somewhat because of slow growth in the number of new radio and television stations and laborsaving technical advances, such as computer-controlled programming and remote control of transmitters. Technicians who know how to install transmitters will be in demand as television stations replace existing analog transmitters with digital transmitters. Stations will begin broadcasting in both analog and digital formats, eventually switching entirely to digital.

Employment of broadcast and sound engineering technicians is expected to grow about as fast as average through 2010. The advancements in technology will enhance the capabilities of technicians to help produce a higher quality of programming for radio and television. Employment of audio and video equipment technicians also is expected to grow about as fast as average through 2010. Not only will these workers have to set up audio and video equipment, but it will be necessary for them to maintain and repair this machinery. Employment of radio operators, on the other hand, will grow more slowly than other areas in this field of work. Automation will negatively impact these workers as many stations now operate transmitters and control programming remotely.

Employment of broadcast and sound engineering technicians and radio operators in the cable industry should grow rapidly because of new products coming to market, such as cable modems, which deliver high-speed Internet access to personal computers, and digital set-top boxes, which transmit better sound and pictures, allowing cable operators to offer many more channels than in the past. These new products should cause traditional cable subscribers to sign up for additional services.

Employment in the motion picture industry also will grow fast. However, job prospects are expected to remain competitive, because of the large number of people attracted to this relatively small field.

Numerous job openings also will result from the need to replace experienced technicians who leave the occupations. Many leave these occupations for electronic jobs in other areas, such as computer technology or commercial and industrial repair.

**Earnings**

Television stations usually pay higher salaries than radio stations; commercial broadcasting usually pays more than public broadcasting; and stations in large markets pay more than those in small ones.

Median annual earnings of broadcast technicians in 2000 were $26,950. The middle 50 percent earned between $18,060 and $44,410. The lowest 10 percent earned less than $13,860, and the highest 10 percent earned more than $63,340.

Median annual earnings of sound engineering technicians in 2000 were $39,480. The middle 50 percent earned between $24,730 and $73,720. The lowest 10 percent earned less than $17,560, and the highest 10 percent earned more than $119,400.

Median annual earnings of audio and video equipment technicians in 2000 were $30,310. The middle 50 percent earned between $21,980 and $44,970. The lowest 10 percent earned less than $16,630, and the highest 10 percent earned more than $68,720.

Median annual earnings of radio operators in 2000 were $29,260. The middle 50 percent earned between $23,090 and $39,830. The lowest 10 percent earned less than $17,570, and the highest 10 percent earned more than $54,590.

**Related Occupations**

Broadcast and sound engineering technicians and radio operators need the electronics training and hand coordination necessary to operate technical equipment, and they generally complete specialized postsecondary programs. Similar occupations include engineering technicians, science technicians, health technologists and technicians, electrical and electronics installers and repairers, and communications equipment operators.

**Sources of Additional Information**

For information on careers for broadcast and sound engineering technicians and radio operators, write to:

➤ National Association of Broadcasters, 1771 N St. NW., Washington, DC 20036. Internet: **http://www.nab.org**

For information on certification, contact:

➤ Society of Broadcast Engineers, 9247 North Meridian St., Suite 305, Indianapolis, IN 46260. Internet: **http://www.sbe.org**

For information on careers in the motion picture and television industry, contact:

➤ Society of Motion Picture and Television Engineers (SMPTE), 595 West Hartsdale Ave., White Plains, NY 10607. Internet: **http://www.smpte.org**

## Dancers and Choreographers

(O*NET 27-2031.00, 27-2032.00)

**Significant Points**

- Many dancers stop performing by their late thirties; however, some remain in the field as choreographers, dance teachers, or artistic directors.
- Most dancers begin formal training at an early age—between 5 and 15—and many have their first professional audition by age 17 or 18.
- Dancers and choreographers face intense competition—only the most talented find regular work.

**Nature of the Work**

From ancient times to the present, dancers have expressed ideas, stories, rhythm, and sound with their bodies. They use a variety of dance forms that allow free movement and self-expression, including classical ballet, modern dance, and culturally specific dance styles. Many dancers combine performance work with teaching or choreography.

*Dancers spend considerable time practicing in rehearsal halls or dance studios.*

Dancers perform in a variety of settings, such as musical productions, and may present folk, ethnic, tap, jazz, and other popular kinds of dance. They also perform in opera, musical theater, television, movies, music videos, and commercials, in which they may sing and act. Dancers most often perform as part of a group, although a few top artists perform solo.

Many dancers work with choreographers, who create original dances and develop new interpretations of existing dances. Because few dance routines are written down, choreographers instruct performers at rehearsals to achieve the desired effect. In addition, choreographers often are involved in auditioning performers.

**Working Conditions**

Dance is strenuous. Many dancers stop performing by their late thirties because of the physical demands on the body. However, some continue to work in the field as choreographers, dance teachers and coaches, or artistic directors. Others move into administrative positions, such as company manager. Some celebrated dancers, however, continue performing beyond the age of 50.

Daily rehearsals require very long hours. Many dance companies tour for part of the year to supplement a limited performance schedule at home. Dancers who perform in musical productions and other family entertainment spend much of their time on the road; others work in nightclubs or on cruise ships. Most dance performances are in the evening, while rehearsals and practice take place during the day. As a result, dancers often work very long and late hours. Generally, dancers and choreographers work in modern and temperature-controlled facilities; however, some studios may be older and less comfortable.

**Employment**

Professional dancers and choreographers held about 26,000 jobs at any one time in 2000. Many others were between engagements, so that the total number of people available for work as dancers over the course of the year was greater. Dancers and choreographers worked in a variety of settings, including eating and drinking establishments, theatrical and television productions, dance studios and schools, dance companies and bands, concert halls, and theme parks. Dancers who give lessons worked in secondary schools, colleges and universities, and private studios.

New York City is home to many major dance companies; however, full time professional dance companies operate in most major cities.

**Training, Other Qualifications, and Advancement**

Training varies depending upon the type of dance and is a continuous part of all dancers' careers. Many dancers and dance instructors believe dancers should start with a good foundation in classical dance before selecting a particular dance style. Ballet training for women usually begins at 5 to 8 years of age with a private teacher or through an independent ballet school. Serious training traditionally begins between the ages of 10 and 12. Men often begin their ballet training between the ages of 10 and 15. Students who demonstrate potential in their early teens receive more intensive and advanced professional training. At about this time, students should begin to focus their training on a particular style and decide whether to pursue additional training through a dance company's school or a college dance program. Leading dance school companies often have summer training programs from which they select candidates for admission to their regular full-time training program. Formal training for modern and culturally specific dancers often begins later than training in ballet; however, many folk dance forms are taught to very young children.

Many dancers have their first professional auditions by age 17 or 18. Training is an important component of professional dancers' careers. Dancers normally spend 8 hours a day in class and rehearsal, keeping their bodies in shape and preparing for performances. Their daily training period includes time to warm up and cool down before and after classes and rehearsals.

Because of the strenuous and time-consuming dance training required, some dancers view formal education as secondary. However, a broad, general education including music, literature, history, and the visual arts is helpful in the interpretation of dramatic episodes, ideas, and feelings. Dancers sometimes conduct research to learn more about the part they are playing.

Many colleges and universities confer bachelor's or master's degrees in dance, typically through departments of music, theater, or fine arts. Many programs concentrate on modern dance, but some also offer courses in jazz, culturally specific, ballet, or classical techniques; dance composition, history, and criticism; and movement analysis.

A college education is not essential to obtain employment as a professional dancer; however, many dancers obtain degrees in unrelated fields to prepare themselves for careers after dance. Completion of a college program in dance and education is essential in order to qualify to teach dance in college, high school, or elementary school. Colleges and conservatories sometimes require graduate degrees, but may accept performance experience. A college background is not necessary, however, for teaching dance or choreography in local recreational programs. Studio schools usually require teachers to have experience as performers.

Because of the rigorous practice schedules of most dancers, self-discipline, patience, perseverance, and a devotion to dance are essential for success in the field. Dancers also must possess good problem-solving skills and an ability to work with people. Good health and physical stamina also are necessary attributes. Above all, dancers must have flexibility, agility, coordination, grace, a sense of rhythm, a feeling for music, and a creative ability to express themselves through movement.

Dancers seldom perform unaccompanied, so they must be able to function as part of a team. They should also be highly motivated and prepared to face the anxiety of intermittent employment and rejections when auditioning for work. For dancers, advancement takes the form of a growing reputation, more frequent work, bigger and better roles, and higher pay.

Choreographers typically are older dancers with years of experience in the theater. Through their performance as dancers, they develop reputations as skilled artists that often lead to opportunities to choreograph productions.

**Job Outlook**
Dancers and choreographers face intense competition for jobs. Only the most talented find regular employment.

Employment of dancers and choreographers is expected to increase about as fast as the average for all occupations through 2010, reflecting the public's continued interest in this form of artistic expression. However, funding from public and private organizations is not expected to keep pace with rising production costs, resulting in slower employment growth. Although job openings will arise each year because dancers and choreographers retire or leave the occupation for other reasons, the number of applicants will continue to vastly exceed the number of job openings.

National dance companies should continue to provide most jobs in this field. Opera companies and dance groups affiliated with colleges and universities and with television and motion pictures also will offer some opportunities. Moreover, the growing popularity of dance in recent years has resulted in increased opportunities to teach dance. Additionally, music video channels will provide some opportunities for both dancers and choreographers.

**Earnings**
Median annual earnings of dancers were $22,470 in 2000. The middle 50 percent earned between $14,260 and $34,600. The lowest 10 percent earned less than $12,520, and the highest 10 percent earned more than $55,220. Median annual earnings were $29,980 in the producers, orchestras, and entertainers industry and $16,290 in eating and drinking places.

Median annual earnings of choreographers were $27,010 in 2000. The middle 50 percent earned between $17,970 and $42,080. The lowest 10 percent earned less than $13,370, and the highest 10 percent earned more than $55,800. Median annual earnings were $25,860 in dance studios, schools, and halls.

Dancers on tour received an additional allowance for room and board, and extra compensation for overtime. Earnings from dancing are usually low because employment is part year and irregular. Dancers often supplement their income by working as guest artists with other dance companies, teaching dance, or taking jobs unrelated to the field.

Earnings of many professional dancers are governed by union contracts. Dancers in the major opera ballet, classical ballet, and modern dance corps belong to the American Guild of Musical Artists, Inc., AFL-CIO; those who appear on live or videotaped television programs belong to the American Federation of Television and Radio Artists; those who perform in films and on television belong to the Screen Actors Guild; and those in musical theater are members of Actors' Equity Association. The unions and producers sign basic agreements specifying minimum salary rates, hours of work, benefits, and other conditions of employment. However, the contract each dancer signs with the producer of the show may be more favorable than the basic agreement.

Dancers and choreographers covered by union contracts are entitled to some paid sick leave, paid vacations, and various health and pension benefits, including extended sick pay and family leave provisions provided by their unions. Employers contribute toward these benefits. Those not covered by union contracts usually do not enjoy such benefits.

**Related Occupations**
People who work in other performing arts occupations include actors, producers, and directors; and musicians, singers, and related workers. Those directly involved in the production of dance programs include set and exhibit designers; fashion designers; sound engineering technicians; and hairdressers, hairstylists, and cosmetologists. Like dancers, athletes, coaches, umpires, and related workers in most sports need strength, flexibility, and agility.

**Sources of Additional Information**
For general information about dance and a list of accredited college-level programs, contact:

➤ National Association of Schools of Dance, 11250 Roger Bacon Dr., Suite 21, Reston, VA 20190. Internet: **http://www.arts-accredit.org/nasd/default.htm**

➤ Dance/USA, 1156 15th St. NW., Suite 820, Washington, DC 20005. Internet: **http://www.danceusa.org**

# Designers

(O*NET 27-1021.00, 27-1022.00, 27-1023.00, 27-1024.00, 27-1025.00, 27-1026.00, 27-1027.01, 27-1027.02)

**Significant Points**

- Three out of 10 designers are self-employed—almost 5 times the proportion for all professional and related occupations.
- Creativity is crucial in all design occupations; most designers need a bachelor's degree, and candidates with a master's degree hold an advantage.
- Keen competition is expected for most jobs, despite projected faster-than-average employment growth, because many talented individuals are attracted to careers as designers.

**Nature of the Work**
Designers are people with a desire to create. They combine practical knowledge with artistic ability to turn abstract ideas into formal designs for the merchandise we buy, the clothes we wear, the publications we read, and the living and office space we inhabit. Designers usually specialize in a particular area of design, such as automobiles, industrial or medical equipment, or home appliances; clothing and textiles; floral arrangements; publications, logos, signage, or movie or TV credits; interiors of homes or office buildings; merchandise displays; or movie, television, and theater sets.

The first step in developing a new design or altering an existing one is to determine the needs of the client, the ultimate function for which the design is intended, and its appeal to customers. When creating a design, designers often begin by researching the desired design characteristics, such as size, shape, weight, color, materials used, cost, ease of use, fit, and safety.

Designers then prepare sketches—by hand or with the aid of a computer—to illustrate the vision for the design. After consulting with the client, an art or design director, or a product development team, designers create detailed designs using drawings, a structural model, computer simulations, or a full-scale prototype. Many designers increasingly are using computer-aided design (CAD) tools to create and better visualize the final product. Computer models allow greater ease and flexibility in exploring a greater number of design alternatives, thus reducing design costs and cutting the time it takes to deliver a product to market. Industrial designers use computer-aided industrial design (CAID) tools to create designs and machine-readable instructions that communicate with automated production tools.

Designers sometimes supervise assistants who carry out their creations. Designers who run their own businesses also may devote a considerable amount of time to developing new business

contacts, reviewing equipment and space needs, and performing administrative tasks, such as reviewing catalogues and ordering samples. Design encompasses a number of different fields. Many designers specialize in a particular area of design, whereas others work in more than one area.

*Commercial and industrial designers*, including designers of commercial products and equipment, develop countless manufactured products, including airplanes; cars; children's toys; computer equipment; furniture; home appliances; and medical, office, and recreational equipment. They combine artistic talent with research on product use, customer needs, marketing, materials, and production methods to create the most functional and appealing design that will be competitive with others in the marketplace. Industrial designers typically concentrate in an area of sub-specialization such as kitchen appliances, auto interiors, or plastic-molding machinery.

*Fashion designers* design clothing and accessories. Some high-fashion designers are self-employed and design for individual clients. Other high-fashion designers cater to specialty stores or high-fashion department stores. These designers create original garments, as well as those that follow established fashion trends. Most fashion designers, however, work for apparel manufacturers, creating designs of men's, women's, and children's fashions for the mass market.

*Floral designers* cut and arrange live, dried, or artificial flowers and foliage into designs, according to the customer's order. They trim flowers and arrange bouquets, sprays, wreaths, dish gardens, and terrariums. They usually work from a written order indicating the occasion, customer preference for color and type of flower, price, the time at which the floral arrangement or plant is to be ready, and the place to which it is to be delivered. The variety of duties performed by floral designers depends on the size of the shop and the number of designers employed. In a small operation, floral designers may own their shops and do almost everything, from growing and purchasing flowers to keeping financial records.

*Graphic designers* use a variety of print, electronic, and film media to create designs that meet clients' commercial needs. Using computer software, they develop the overall layout and design of magazines, newspapers, journals, corporate reports, and other publications. They also may produce promotional displays and marketing brochures for products and services, design distinctive company logos for products and businesses, and develop signs and signage systems—called environmental graphics—for business and government. An increasing number of graphic designers develop material to appear on Internet home pages. Graphic designers also produce the credits that appear before and after television programs and movies.

*Interior designers* plan the space and furnish the interiors of private homes, public buildings, and business or institutional facilities, such as offices, restaurants, retail establishments, hospitals, hotels, and theaters. They also plan the interiors when existing structures are renovated or expanded. Most interior designers specialize. For example, some may concentrate in residential design, and others may further specialize by focusing on particular rooms, such as kitchens or baths. With a client's tastes, needs, and budget in mind, interior designers prepare drawings and specifications for non-load bearing interior construction, furnishings, lighting, and finishes. Increasingly, designers use computers to plan layouts, which can easily be changed to include ideas received from the client. Interior designers also design lighting and architectural details—such as crown molding, built-in bookshelves, or cabinets—coordinate colors, and select furniture, floor coverings, and window treatments. Interior designers must design space to conform to Federal, State, and local laws, including building codes. Designs for public areas also must meet accessibility standards for the disabled and elderly.

*Merchandise displayers and window dressers*, or *visual merchandisers*, plan and erect commercial displays, such as those in windows and interiors of retail stores or at trade exhibitions. Those who work on building exteriors erect major store decorations, including building and window displays, and spot lighting. Those who design store interiors outfit store departments, arrange table displays, and dress mannequins. In large retail chains, store layouts typically are designed corporately, through a central design department. To retain the chain's visual identity and ensure that a particular image or theme is promoted in each store, designs are distributed to individual stores by e-mail, downloaded to computers equipped with the appropriate design software, and adapted to meet individual store size and dimension requirements.

*Interior designers frequently carry sample books to meetings with clients.*

*Set and exhibit designers* create sets for movie, television, and theater productions and design special exhibition displays. Set designers study scripts, confer with directors and other designers, and conduct research to determine the appropriate historical period, fashion, and architectural styles. They then produce sketches or scale models to guide in the construction of the actual sets or exhibit spaces. Exhibit designers work with curators, art and museum directors, and trade show sponsors to determine the most effective use of available space.

**Working Conditions**

Working conditions and places of employment vary. Designers employed by manufacturing establishments, large corporations, or design firms generally work regular hours in well-lighted and comfortable settings. Self-employed designers tend to work longer hours.

Designers who work on a contract, or job, basis frequently adjust their workday to suit their clients' schedules, meeting with them during evening or weekend hours when necessary. Designers may transact business in their own offices or studios or in clients' homes or offices, or they may travel to other locations, such as showrooms, design centers, clients' exhibit sites, and manufacturing facilities. Designers who are paid by the assignment are under pressure to please clients and to find new ones to maintain a constant income. All designers face frustration at times when their designs are rejected or when they cannot be as creative as they wish. With the increased use of computers in the workplace and the advent of Internet websites, more designers conduct business, research design alternatives, and purchase supplies electronically than ever before.

Occasionally, industrial designers may work additional hours to meet deadlines. Similarly, graphic designers usually work regular hours, but may work evenings or weekends to meet production

schedules. In contrast, set and exhibit designers work long and irregular hours; often, they are under pressure to make rapid changes. Merchandise displayers and window trimmers who spend most of their time designing space typically work in office-type settings; however, those who also construct and install displays spend much of their time doing physical labor, such as those tasks performed by a carpenter or someone constructing and moving stage scenery. (Carpenters are discussed elsewhere in the *Handbook*.) Fashion designers may work long hours to meet production deadlines or prepare for fashion shows. In addition, fashion designers may be required to travel to production sites across the United States and overseas. Interior designers generally work under deadlines and may work extra hours to finish a job. Also, they regularly carry heavy, bulky sample books to meetings with clients. Floral designers usually work regular hours in a pleasant work environment, but holiday, wedding, and funeral orders often require overtime.

**Employment**

Designers held about 492,000 jobs in 2000. About one-third were self-employed. Employment was distributed as follows:

| | |
|---|---|
| Graphic designers | 190,000 |
| Floral designers | 102,000 |
| Merchandise displayers and window trimmers | 76,000 |
| Commercial and industrial designers | 50,000 |
| Interior designers | 46,000 |
| Fashion designers | 16,000 |
| Set and exhibit designers | 12,000 |

Designers work in a number of different industries, depending on their design specialty. Most industrial designers, for example, work for engineering or architectural consulting firms or for large corporations. Most salaried interior designers work for furniture and home furnishings stores, interior designing services, and architectural firms. Others are self-employed and do freelance work—full time or part time—in addition to a salaried job in another occupation.

Set and exhibit designers work for theater companies; film and television production companies; and museums, art galleries, and convention and conference centers. Fashion designers generally work for textile, apparel, and pattern manufacturers; wholesale distributors of clothing, furnishings, and accessories; or for fashion salons, high-fashion department stores, and specialty shops. Most floral designers work for retail flower shops or in floral departments located inside grocery and department stores.

**Training, Other Qualifications, and Advancement**

Creativity is crucial in all design occupations. People in this field must have a strong sense of the esthetic—an eye for color and detail, a sense of balance and proportion, and an appreciation for beauty. Despite the advancement of computer-aided design, sketching ability remains an important advantage in most types of design, especially fashion design. A good portfolio—a collection of examples of a person's best work—often is the deciding factor in getting a job.

A bachelor's degree is required for most entry-level design positions, except for floral design and visual merchandising. Esthetic ability is important for floral design and visual merchandising, but formal preparation typically is not necessary. Many candidates in industrial design pursue a master's degree to better compete for open positions.

Interior design is the only design field subject to government regulation. According to the American Society for Interior Designers, 19 States and the District of Columbia require interior designers to be licensed or registered. Passing the National Council for Interior Design qualification examination is required for licensure. To take the exam, one must complete at least 2 years of postsecondary education in design, at least 2 years of practical work experience in the field, plus additional related education or experience to total at least 6 years of combined education and experience in design. Because licensing is not mandatory in all States, membership in a professional association is an indication of an interior designer's qualifications and professional standing—and can aid in obtaining clients.

In fashion design, employers seek individuals with a 2- or 4-year degree who are knowledgeable in the areas of textiles, fabrics, and ornamentation, as well as trends in the fashion world. Set and exhibit designers typically have college degrees in design. A Master of Fine Arts (MFA) degree from an accredited university program further establishes one's design credentials. Membership in the United Scenic Artists, Local 829, is a nationally recognized standard of achievement for scenic designers.

Most floral designers learn their skills on the job. When employers hire trainees, they generally look for high school graduates who have a flair for arranging and a desire to learn. Completion of formal training, however, is an asset for floral designers, particularly for advancement to the chief floral designer level. Vocational and technical schools offer programs in floral design, usually lasting less than a year, while 2- and 4-year programs in floriculture, horticulture, floral design, or ornamental horticulture are offered by community and junior colleges, and colleges and universities.

Formal training for some design professions also is available in 2- and 3-year professional schools that award certificates or associate degrees in design. Graduates of 2-year programs normally qualify as assistants to designers. The Bachelor of Fine Arts degree is granted at 4-year colleges and universities. The curriculum in these schools includes art and art history, principles of design, designing and sketching, and specialized studies for each of the individual design disciplines, such as garment construction, textiles, mechanical and architectural drawing, computerized design, sculpture, architecture, and basic engineering. A liberal arts education, with courses in merchandising, business administration, marketing, and psychology, along with training in art, is recommended for designers who want to freelance. Additionally, persons with training or experience in architecture qualify for some design occupations, particularly interior design.

Because computer-aided design is increasingly common, many employers expect new designers to be familiar with its use as a design tool. For example, industrial designers extensively use computers in the aerospace, automotive, and electronics industries. Interior designers use computers to create numerous versions of interior space designs—images can be inserted, edited, and replaced easily and without added cost—making it possible for a client to see and choose among several designs.

The National Association of Schools of Art and Design currently accredits about 200 postsecondary institutions with programs in art and design; most of these schools award a degree in art. Some award degrees in industrial, interior, textile, graphic, or fashion design. Many schools do not allow formal entry into a bachelor's degree program until a student has successfully finished a year of basic art and design courses. Applicants may be required to submit sketches and other examples of their artistic ability.

The Foundation for Interior Design Education Research also accredits interior design programs and schools. Currently, there are more than 120 accredited professional programs in the United States and Canada, primarily located in schools of art, architecture, and home economics.

Individuals in the design field must be creative, imaginative, persistent, and able to communicate their ideas in writing, visually, and verbally. Because tastes in style and fashion can change quickly, designers need to be well-read, open to new ideas and influences,

and quick to react to changing trends. Problem-solving skills and the ability to work independently and under pressure are important traits. People in this field need self-discipline to start projects on their own, to budget their time, and to meet deadlines and production schedules. Good business sense and sales ability also are important, especially for those who freelance or run their own business.

Beginning designers usually receive on-the-job training, and normally need 1 to 3 years of training before they can advance to higher-level positions. Experienced designers in large firms may advance to chief designer, design department head, or other supervisory positions. Some designers become teachers in design schools and colleges and universities. Many faculty members continue to consult privately or operate small design studios to complement their classroom activities. Some experienced designers open their own firms.

**Job Outlook**

Despite projected faster-than-average employment growth, designers in most fields—with the exception of floral design—are expected to face keen competition for available positions. Many talented individuals are attracted to careers as designers. Individuals with little or no formal education in design, as well as those who lack creativity and perseverance, will find it very difficult to establish and maintain a career in design. Floral design should be the least competitive of all design fields because of the relatively low pay and limited opportunities for advancement, as well as the relatively high job turnover of floral designers in retail flower shops.

Overall, the employment of designers is expected to grow faster than the average for all occupations through the year 2010. In addition to those that result from employment growth, many job openings will arise from the need to replace designers who leave the field. Increased demand for industrial designers will stem from the continued emphasis on product quality and safety; the demand for new products that are easy and comfortable to use; the development of high-technology products in medicine, transportation, and other fields; and growing global competition among businesses. Demand for graphic designers should increase because of the rapidly increasing demand for Web-based graphics and the expansion of the video entertainment market, including television, movies, videotape, and made-for-Internet outlets. Rising demand for professional design of private homes, offices, restaurants and other retail establishments, and institutions that care for the rapidly growing elderly population should spur employment growth of interior designers. Demand for fashion designers should remain strong, because many consumers continue to demand new fashions and apparel styles.

**Earnings**

Median annual earnings for commercial and industrial designers were $48,780 in 2000. The middle 50 percent earned between $36,460 and $64,120. The lowest 10 percent earned less than $27,290, and the highest 10 percent earned more than $77,790.

Median annual earnings for fashion designers were $48,530 in 2000. The middle 50 percent earned between $34,800 and $73,780. The lowest 10 percent earned less than $24,710, and the highest 10 percent earned more than $103,970. Median annual earnings were $52,860 in apparel, piece goods, and notions—the industry employing the largest numbers of fashion designers.

Median annual earnings for floral designers were $18,360 in 2000. The middle 50 percent earned between $14,900 and $22,110. The lowest 10 percent earned less than $12,570, and the highest 10 percent earned more than $27,860. Median annual earnings were $20,160 in grocery stores and $17,760 in miscellaneous retail stores, including florists.

Median annual earnings for graphic designers were $34,570 in 2000. The middle 50 percent earned between $26,560 and $45,130. The lowest 10 percent earned less than $20,480, and the highest 10 percent earned more than $58,400. Median annual earnings in the industries employing the largest numbers of graphic designers were as follows:

| | |
|---|---|
| Management and public relations | $37,570 |
| Advertising | 37,080 |
| Mailing, reproduction, and stenographic services | 36,130 |
| Commercial printing | 29,730 |
| Newspapers | 28,170 |

Median annual earnings for interior designers were $36,540 in 2000. The middle 50 percent earned between $26,800 and $51,140. The lowest 10 percent earned less than $19,840, and the highest 10 percent earned more than $66,470. Median annual earnings were $40,710 in engineering and architectural services and $34,890 in furniture and home furnishings stores.

Median annual earnings of merchandise displayers and window dressers were $20,930 in 2000. The middle 50 percent earned between $16,770 and $26,840. The lowest 10 percent earned less than $13,790, and the highest 10 percent earned more than $31,130. Median annual earnings were $22,210 in groceries and related products and $18,820 in department stores.

Median annual earnings for set and exhibit designers were $31,440 in 2000. The middle 50 percent earned between $21,460 and $42,800. The lowest 10 percent earned less than $13,820, and the highest 10 percent earned more than $57,400.

According to the Industrial Designers Society of America, the median base salary, excluding deferred compensation, bonuses, royalties, and commissions, for an industrial designer with 1 to 2 years of experience was about $36,500 in 2000. Staff designers with 5 years of experience earned $45,000, whereas senior designers with 8 years of experience earned $64,000. Industrial designers in managerial, executive, or ownership positions earned substantially more—up to $600,000 annually; however, the $80,000 to $180,000 range was more representative.

The American Institute of Graphic Arts (AIGA) reported 1999 median earnings for graphic designers with increasing levels of responsibility. Staff-level graphic designers earned $36,000, while senior designers, who may supervise junior staff or have some decision-making authority that reflects their knowledge of graphic design, earned $50,000. Solo designers, who freelance or work independently of a company, reported median earnings of $50,000. Design directors, the creative heads of design firms or in-house corporate design departments, earned $80,000. Graphic designers with business responsibilities for the operation of a firm as owners, partners, or principals earned $90,000.

**Related Occupations**

Workers in other occupations who design or arrange objects, materials, or interiors to enhance their appearance and function include artists and related workers; architects, except landscape and naval; engineers, landscape architects, and photographers. Some computer-related occupations require design skills, including computer software engineers and desktop publishers.

**Sources of Additional Information**

For general information about art and design and a list of accredited college-level programs, contact:

➤ National Association of Schools of Art and Design, 11250 Roger Bacon Dr., Suite 21, Reston, VA 20190. Internet: **http://www.arts-accredit.org/nasad/default.htm**

For information on industrial design careers and a list of academic programs in industrial design, write to:

➤ Industrial Designers Society of America, 1142 Walker Rd., Great Falls, VA 22066. Internet: **http://www.idsa.org**

For information about graphic design careers, contact:

➤ American Institute of Graphic Arts, 164 Fifth Ave., New York, NY 10010. Internet: **http://www.aiga.org**

For information on degree, continuing education, and licensure programs in interior design and interior design research, contact:

➤ American Society for Interior Designers, 608 Massachusetts Ave. NE., Washington, DC 20002-6006. Internet: **http://www.asid.org**

For information on degree, continuing education, and licensure programs, and general information on the interior design profession, contact:

➤ International Interior Design Association, 997 Merchandise Mart, Chicago, IL 60654. Internet: **http://www.iida.org**

For a list of schools with accredited programs in interior design, contact:

➤ Foundation for Interior Design Education Research, 146 Monroe Center NW., Suite 1318, Grand Rapids, MI 49503. Internet: **http://www.fider.org**

For information about careers in floral design, contact:

➤ Society of American Florists, 1601 Duke St., Alexandria, VA 22314.

## Musicians, Singers, and Related Workers

(O*NET 27-2041.01, 27-2041.02, 27-2041.03, 27-2042.01, 27-2042.02)

### Significant Points

- Part-time schedules and intermittent unemployment are common; many musicians supplement their income with earnings from other sources.
- Aspiring musicians begin studying an instrument or training their voices at an early age.
- Competition for jobs is keen; those who can play several instruments and types of music should enjoy the best job prospects.

**Nature of the Work**

Musicians, singers, and related workers play musical instruments, sing, compose, arrange, or conduct groups in instrumental or vocal performances. They may perform solo or as part of a group. Musicians, singers, and related workers entertain live audiences in nightclubs, concert halls, and theaters featuring opera, musical theater, or dance. Although most of these entertainers play for live audiences, some perform exclusively for recording or production studios. Regardless of the setting, musicians, singers, and related workers spend considerable time practicing, alone and with their band, orchestra, or other musical ensemble.

*Musicians* often gain their reputation or professional standing in a particular kind of music or performance. However, those who learn several related instruments, such as the flute and clarinet, and can perform equally well in a several musical styles, have better employment opportunities. Instrumental musicians, for example, may play in a symphony orchestra, rock group, or jazz combo one night, appear in another ensemble the next, and in a studio band the following day. Some play a variety of string, brass, woodwind, or percussion instruments or electronic synthesizers.

*Singers* interpret music using their knowledge of voice production, melody, and harmony. They sing character parts or perform in their own individual style. Singers are often classified according to their voice range—soprano, contralto, tenor, baritone, or bass—or by the type of music they sing, such as opera, rock, popular, folk, rap, or country and western.

*One-third of jobs for salaried musicians, singers, and related workers are in religious organizations.*

*Music directors* conduct, direct, plan, and lead instrumental or vocal performances by musical groups, such as orchestras, choirs, and glee clubs. *Conductors* lead instrumental music groups, such as symphony orchestras, dance bands, show bands, and various popular ensembles. These leaders audition and select musicians, choose the music most appropriate for their talents and abilities, and direct rehearsals and performances. Choral directors lead choirs and glee clubs, sometimes working with a band or orchestra conductor. Directors audition and select singers and lead them at rehearsals and performances to achieve harmony, rhythm, tempo, shading, and other desired musical effects.

*Composers* create original music such as symphonies, operas, sonatas, radio and television jingles, film scores, or popular songs. They transcribe ideas into musical notation using harmony, rhythm, melody, and tonal structure. Although most composers and songwriters practice their craft on instruments and transcribe the notes with pen and paper, some use computer software to compose and edit their music.

*Arrangers* transcribe and adapt musical composition to a particular style for orchestras, bands, choral groups, or individuals. Components of music—including tempo, volume, and the mix of instruments needed—are arranged to express the composer's message. While some arrangers write directly into a musical composition, others use computer software to make changes.

**Working Conditions**

Musicians typically perform at night and on weekends. They spend much of their remaining time practicing or in rehearsal. Full-time musicians with long-term employment contracts, such as those with symphony orchestras and television and film production companies, enjoy steady work and less travel. Nightclub, solo, or recital musicians frequently travel to perform in a variety of local settings and may tour nationally or internationally. Because many musicians find only part-time or intermittent work, experiencing unemployment between engagements, they often supplement their income with other types of jobs. The stress of constantly looking for work leads many musicians to accept permanent, full-time jobs in other occupations, while working only part time as musicians.

Most instrumental musicians work closely with a variety of other people, including their colleagues, agents, employers, sponsors, and

audiences. Although they usually work indoors, some perform outdoors for parades, concerts, and dances. In some nightclubs and restaurants, smoke and odors may be present, and lighting and ventilation may be inadequate.

**Employment**

Musicians, singers, and related workers held about 240,000 jobs in 2000. More than 40 percent worked part time, and more than 40 percent were self-employed. Many jobs were found in cities in which entertainment and recording activities are concentrated, such as New York, Los Angeles, and Nashville.

Musicians, singers, and related workers are employed in a variety of settings. More than half of those who earn a wage or salary are employed by religious organizations. Classical musicians may perform with professional orchestras or in small chamber music groups like trios or quartets. Musicians may work in opera, musical theater, and ballet productions. They also perform in nightclubs and restaurants, and for weddings and other events. Well-known musicians and groups may perform in concert, appear on radio and television broadcasts, and make recordings and music videos. The Armed Forces also offer careers in their bands and smaller musical groups.

**Training, Other Qualifications, and Advancement**

Aspiring musicians begin studying an instrument at an early age. They may gain valuable experience playing in a school or community band or orchestra or with a group of friends. Singers usually start training when their voices mature. Participation in school musicals or choirs often provides good early training and experience.

Musicians need extensive and prolonged training to acquire the necessary skills, knowledge, and ability to interpret music. Like other artists, musicians and singers continually strive to stretch themselves, musically, and explore different music forms. Formal training may be obtained through private study with an accomplished musician, in a college or university music program, or in a music conservatory. For university or conservatory study, an audition generally is necessary. Courses typically include musical theory, music interpretation, composition, conducting, and performance in their particular instrument or voice. Music directors, composers, conductors, and arrangers need considerable related work experience or advanced training in these subjects.

Many colleges, universities, and music conservatories grant bachelor's or higher degrees in music. A master's or doctoral degree is usually required to teach advanced music courses in colleges and universities; a bachelor's degree may be sufficient to teach basic courses. A degree in music education qualifies graduates for a State certificate to teach music in public elementary or secondary schools. Musicians who do not meet public school music education requirements may teach in private schools and recreation associations, or instruct individual students in private sessions.

Musicians must be knowledgeable about the broad range of music styles, but keenly aware of the form that interests them most. This broader range of interest, knowledge, and training can help expand employment opportunities and musical abilities. Voice training and private instrumental lessons, especially when young, also help develop technique and enhance performance.

Young persons considering careers in music should have musical talent, versatility, creativity, poise, and a good stage presence. Because quality performance requires constant study and practice, self-discipline is vital. Moreover, musicians who play concert and nightclub engagements and who tour must have physical stamina to endure frequent travel and an irregular performance schedule. Musicians and singers always must make their performances look effortless; therefore, preparations and practice are important. They also must be prepared to face the anxiety of intermittent employment and rejections when auditioning for work.

Advancement for musicians usually means becoming better known and performing for higher earnings. Successful musicians often rely on agents or managers to find them performing engagements, negotiate contracts, and develop their careers.

**Job Outlook**

Competition for musician, singer, and related worker jobs is expected to be keen. The vast number of persons with the desire to perform will exceed the number of openings. Talent alone is no guarantee of success. Many people start out to become musicians or singers, but leave the profession because they find the work difficult, the discipline demanding, and the long periods of intermittent unemployment unendurable.

Overall employment of musicians, singers, and related workers is expected to grow about as fast as the average for all occupations through 2010. Most new wage and salary jobs for musicians will arise in religious organizations, where the majority of these workers are employed. Average growth also is expected for self-employed musicians, who generally perform in nightclubs, concert tours, and other venues. Although growth in demand for musicians will generate a number of job opportunities, many openings also will arise from the need to replace those who leave the field each year because they are unable to make a living solely as musicians or for other reasons.

**Earnings**

Median annual earnings of salaried musicians and singers were $36,740 in 2000. The middle 50 percent earned between $19,590 and $59,330. The lowest 10 percent earned less than $13,250, and the highest 10 percent earned more than $88,640. Median annual earnings were $41,520 in the producers, orchestras, and entertainers industry and $16,570 in religious organizations.

Median annual earnings of salaried music directors and composers were $31,510 in 2000. The middle 50 percent earned between $21,080 and $45,000. The lowest 10 percent earned less than $13,530, and the highest 10 percent earned more than $66,140.

Earnings often depend on the number of hours and weeks worked, a performer's professional reputation, and setting. The most successful musicians earn performance or recording fees that far exceed the median earnings indicated above.

According to the American Federation of Musicians, minimum salaries in major orchestras ranged from $24,720 to $100,196 per year during the 2000-01 performing season. Each orchestra works out a separate contract with its local union. Top orchestras have a season ranging from 24 to 52 weeks, with 18 orchestras reporting 52-week contracts. In regional orchestras, minimum salaries are often less because fewer performances are scheduled. Community orchestras often have more limited levels of funding and offer salaries that are much lower for seasons of shorter duration. Regional orchestra musicians often are paid per service without guarantees.

Although musicians employed by some symphony orchestras work under master wage agreements, which guarantee a season's work up to 52 weeks, many other musicians face relatively long periods of unemployment between jobs. Even when employed, many musicians and singers work part time in unrelated occupations. Thus, their earnings usually are lower than earnings in many other occupations. Moreover, because they may not work steadily for one employer, some performers cannot qualify for unemployment compensation, and few have typical benefits such as sick leave or paid vacations. For these reasons, many musicians give private lessons or take jobs unrelated to music to supplement their earnings as performers.

Many musicians belong to a local of the American Federation of Musicians. Professional singers usually belong to a branch of the American Guild of Musical Artists.

**Related Occupations**
Musical instrument repairers and tuners (part of precision instrument and equipment repairers) require technical knowledge of musical instruments. Others whose work involves music include actors, producers, and directors; announcers; broadcast and sound engineering technicians and radio operators; and dancers and choreographers.

**Sources of Additional Information**
For general information about music and music teacher education and a list of accredited college-level programs, contact:
➤ National Association of Schools of Music, 11250 Roger Bacon Dr., Suite 21, Reston, VA 22091. Internet:
**http://www.arts-accredit.org/nasm/nasm.htm**

## News Analysts, Reporters, and Correspondents

(O*NET 27-3021.00, 27-3022.00)

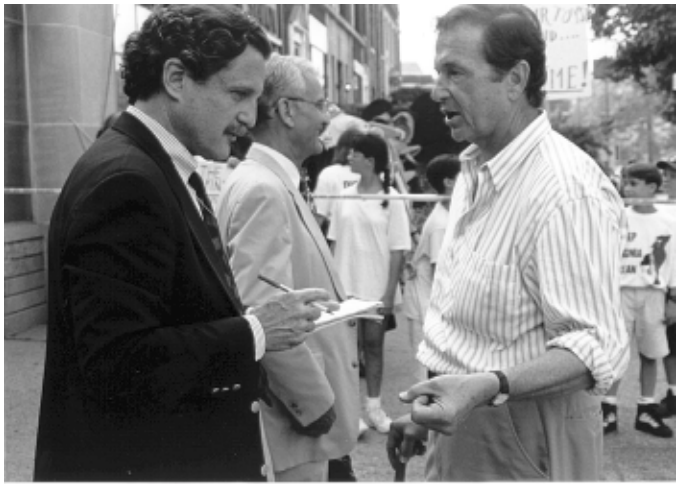
### Significant Points

- Most employers prefer individuals with a bachelor's degree in journalism and experience.
- Competition will be keen for jobs at large metropolitan newspapers and broadcast stations and on national magazines; most entry-level openings arise on small publications.
- Jobs often are stressful because of irregular hours, frequent night and weekend work, and pressure to meet deadlines.

**Nature of the Work**
News analysts, reporters, and correspondents play a key role in our society. They gather information, prepare stories, and make broadcasts that inform us about local, State, national, and international events; present points of view on current issues; and report on the actions of public officials, corporate executives, special-interest groups, and others who exercise power.

*News analysts* examine, interpret, and broadcast news received from various sources, and also are called *newscasters* or *news anchors*. News anchors present news stories and introduce videotaped news or live transmissions from on-the-scene reporters. Some newscasters at large stations and networks usually specialize in a particular type of news, such as sports or weather. *Weathercasters*, also called weather reporters, report current and forecasted weather conditions. They gather information from national satellite weather services, wire services, and local and regional weather bureaus. Some weathercasters are trained meteorologists and can develop their own weather forecasts. (See the statement on atmospheric scientists elsewhere in the *Handbook*.) *Sportscasters* select, write, and deliver sports news. This may include interviews with sports personalities and coverage of games and other sporting events.

In covering a story, *reporters* investigate leads and news tips, look at documents, observe events at the scene, and interview people. Reporters take notes and also may take photographs or shoot videos. At their office, they organize the material, determine the focus or emphasis, write their stories, and edit accompanying video material. Many reporters enter information or write stories on laptop computers, and electronically submit them to their offices from remote locations. In some cases, *newswriters* write a story from information collected and submitted by reporters. Radio and television reporters often compose stories and report "live" from the scene. At times, they later tape an introduction or commentary to their story in the studio. Some journalists also interpret the news or offer opinions to readers, viewers, or listeners. In this role, they are called *commentators* or *columnists.*



*In covering a story, news analysts, reporters, and correspondents investigate leads and tips, observe events at the scene, and interview people.*

General assignment reporters write news, such as an accident, a political rally, the visit of a celebrity, or a company going out of business, as assigned. Large newspapers and radio and television stations assign reporters to gather news about specific categories or beats, such as crime or education. Some reporters specialize in fields such as health, politics, foreign affairs, sports, theater, consumer affairs, social events, science, business, and religion. Investigative reporters cover stories that take many days or weeks of information gathering. Some publications use teams of reporters instead of assigning specific beats, allowing reporters to cover a greater variety of stories. News teams may include reporters, editors, graphic artists, and photographers, working together to complete a story.

*News correspondents* report on news occurring in the large U.S. and foreign cities where they are stationed. Reporters on small publications cover all aspects of the news. They take photographs, write headlines, lay out pages, edit wire service copy, and write editorials. Some also solicit advertisements, sell subscriptions, and perform general office work.

**Working Conditions**
The work of news analysts, reporters, and correspondents usually is hectic. They are under great pressure to meet deadlines and broadcasts sometimes are made with little time for preparation. Some work in comfortable, private offices; others work in large rooms filled with the sound of keyboards and computer printers, as well as the voices of other reporters. Curious onlookers, police, or other emergency workers can distract those reporting from the scene for radio and television. Covering wars, political uprisings, fires, floods, and similar events often is dangerous.

Working hours vary. Reporters on morning papers often work from late afternoon until midnight. Those on afternoon or evening papers generally work from early morning until early afternoon or mid afternoon. Radio and television reporters usually are assigned

to a day or evening shift. Magazine reporters usually work during the day.

Reporters sometimes have to change their work hours to meet a deadline, or to follow late-breaking developments. Their work demands long hours, irregular schedules, and some travel. Many stations and networks are on the air 24 hours a day, so newscasters can expect to work unusual hours.

**Employment**

News analysts, reporters, and correspondents held about 78,000 jobs in 2000. Nearly half worked for newspapers—either large city dailies or suburban and small town dailies or weeklies. About 28 percent worked in radio and television broadcasting, and others worked for magazines and wire services. About 12,000 news analysts, reporters, and correspondents were self-employed.

**Training, Other Qualifications, and Advancement**

Most employers prefer individuals with a bachelor's degree in journalism, but some hire graduates with other majors. They look for experience on school newspapers or broadcasting stations and internships with news organizations. Large city newspapers and stations also may prefer candidates with a degree in a subject-matter specialty such as economics, political science, or business. Large newspapers and broadcasters also require a minimum of 3 to 5 years of experience as a reporter.

Bachelor's degree programs in journalism are available at over 400 colleges or universities. About three-fourths of the courses in a typical curriculum are in liberal arts; the remainder are in journalism. Journalism courses include introductory mass media, basic reporting and copy editing, history of journalism, and press law and ethics. Students planning a career in broadcasting take courses in radio and television newscasting and production. Those planning newspaper or magazine careers usually specialize in news-editorial journalism. Those planning careers in new media, such as online newspapers or magazines, require a merging of traditional and new journalism skills. To create a story for online presentation, they need to know how to use computer software to combine online story text with audio and video elements and graphics.

Many community and junior colleges offer journalism courses or programs; credits may be transferable to 4-year journalism programs.

About 120 schools offered a master's degree in journalism in 2000; about 35 schools offered a Ph.D. degree. Some graduate programs are intended primarily as preparation for news careers, while others prepare journalism teachers, researchers and theorists, and advertising and public relations workers.

High school courses in English, journalism, and social studies provide a good foundation for college programs. Useful college liberal arts courses include English with an emphasis on writing, sociology, political science, economics, history, and psychology. Courses in computer science, business, and speech are useful, as well. Fluency in a foreign language is necessary in some jobs.

Although reporters need good word-processing skills, computer graphics and desktop publishing skills also are useful. Computer-assisted reporting involves the use of computers to analyze data in search of a story. This technique and the interpretation of the results require strong math skills and familiarity with databases. Knowledge of news photography also is valuable for entry-level positions, which sometimes combine reporter/camera operator or reporter/photographer responsibilities.

Experience in a part-time or summer job or an internship with a news organization is very important. (Most newspapers, magazines, and broadcast news organizations offer reporting and editing internships.) Work on high school and college newspapers, at broadcasting stations, or on community papers or U.S. Armed Forces publications also helps. In addition, journalism scholarships, fellowships, and assistantships awarded to college journalism students by universities, newspapers, foundations, and professional organizations are helpful. Experience as a stringer or freelancer, a part-time reporter who is paid only for stories printed, also is advantageous.

Reporters should be dedicated to providing accurate and impartial news. Accuracy is important, both to serve the public and because untrue or libelous statements can lead to costly lawsuits. A nose for news, persistence, initiative, poise, resourcefulness, a good memory, and physical stamina are important, as well as the emotional stability to deal with pressing deadlines, irregular hours, and dangerous assignments. Broadcast reporters and news analysts must be comfortable on camera. All reporters must be at ease in unfamiliar places and with a variety of people. Positions involving on-air work require a pleasant voice and appearance.

Most reporters start at small publications or broadcast stations as general assignment reporters or copy editors. Large publications and stations hire few recent graduates; as a rule, they require new reporters to have several years of experience.

Beginning reporters cover court proceedings and civic and club meetings, summarize speeches, and write obituaries. With experience, they report more difficult assignments, cover an assigned beat, or specialize in a particular field.

Some news analysts and reporters can advance by moving to large newspapers or stations. A few experienced reporters become columnists, correspondents, writers, announcers, or public relations specialists. Others become editors in print journalism or program managers in broadcast journalism, who supervise reporters. Some eventually become broadcasting or publications industry managers.

**Job Outlook**

Employment of news analysts, reporters, and correspondents is expected to grow more slowly than the average for all occupations through the year 2010—the result of mergers, consolidations, and closures of newspapers; decreased circulation; increased expenses; and a decline in advertising profits. Despite little change in overall employment, some job growth is expected in radio and television stations, and even more rapid growth is expected in new media areas, such as online newspapers and magazines. Job openings also will result from the need to replace workers who leave these occupations permanently. Some news analysts, reporters, and correspondents find the work too stressful and hectic or do not like the lifestyle, and transfer to other occupations.

Competition will continue to be keen for jobs on large metropolitan newspapers and broadcast stations and on national magazines. Talented writers who can handle highly specialized scientific or technical subjects have an advantage. Also, newspapers increasingly are hiring stringers and freelancers.

Most entry-level openings arise on small publications, as reporters and correspondents become editors or reporters on larger publications or leave the field. Small town and suburban newspapers will continue to offer most opportunities for persons seeking to enter this field.

Journalism graduates have the background for work in closely related fields such as advertising and public relations, and many take jobs in these fields. Other graduates accept sales, managerial, or other nonmedia positions, because of the difficulty in finding media jobs.

The newspaper and broadcasting industries are sensitive to economic ups and downs, because these industries depend on advertising revenue. During recessions, few new reporters are hired, and some reporters lose their jobs.

**Earnings**
Salaries for news analysts, reporters, and correspondents vary widely but, in general, are relatively high, except at small stations and small publications, where salaries often are very low. Median annual earnings of news analysts, reporters, and correspondents were $29,110 in 2000. The middle 50 percent earned between $21,320 and $45,540. The lowest 10 percent earned less than $16,540, and the highest 10 percent earned more than $69,300. Median annual earnings of news analysts, reporters, and correspondents were $33,550 in radio and television broadcasting and $26,900 in newspapers in 2000.

According to a 1999 survey conducted by the National Association of Broadcasters and the Broadcast Cable Financial Management Association, the annual average salary, including bonuses, was $83,400 for weekday anchors and $44,200 for those working on weekends. Television news reporters earned on average $33,700. Weekday sportscasters typically earned $68,900, while weekend sportscasters earned $37,200. Weathercasters averaged $68,500 during the week and $36,500 on weekends. According to the 2001 survey, the annual average salary, including bonuses, was $55,100 for radio news reporters and $53,300 for sportscasters in radio broadcasting.

**Related Occupations**
News analysts, reporters, and correspondents must write clearly and effectively to succeed in their profession. Others for whom good writing ability is essential include writers and editors, and public relations specialists. Many news analysts, reporters, and correspondents also must communicate information orally. Others for whom oral communication skills are vital are announcers, interpreters and translators, sales and related occupations, and teachers.

**Sources of Additional Information**
For information on careers in broadcast news and related scholarships and internships, contact:

➤ Radio and Television News Directors Foundation, 1000 Connecticut Ave. NW., Suite 615, Washington, DC 20036. Internet: **http://www.rtndf.org**

General information on the broadcasting industry is available from:

➤ National Association of Broadcasters, 1771 N St. NW., Washington, DC 20036. Internet: **http://www.nab.org**

Career information, including pamphlets entitled *Newspaper Career Guide* and *Newspaper: What's In It For Me*?, is available from:

➤ Newspaper Association of America, 1921 Gallows Rd., Suite 600, Vienna, VA 22182. Internet: **http://www.naa.org**

Information on careers in journalism, colleges and universities offering degree programs in journalism or communications, and journalism scholarships and internships may be obtained from:

➤ Dow Jones Newspaper Fund, Inc., P.O. Box 300, Princeton, NJ 08543-0300. Internet: **http://www.dowjones.com**

Information on union wage rates for newspaper and magazine reporters is available from:

➤ Newspaper Guild, Research and Information Department, 501 3rd St. NW., Suite 250, Washington, DC 20001. Internet: **http://www.newsguild.org**

For a list of schools with accredited programs in journalism, send a stamped, self-addressed envelope to:

➤ Accrediting Council on Education in Journalism and Mass Communications, University of Kansas School of Journalism and Mass Communications, Stauffer-Flint Hall, Lawrence, KS 66045. Internet: **http://www.ukans.edu/~acejmc**

Information on newspaper careers and community newspapers is available from:

➤ National Newspaper Association, 1010 North Glebe Rd., Suite 450, Arlington, VA 22201. Internet: **http://www.nnafoundation.org**

Names and locations of newspapers and a list of schools and departments of journalism are published in the *Editor and Publisher International Year Book*, available in most public libraries and newspaper offices.

## Photographers

(O*NET 27-4021.01, 27-4021.02)

**Significant Points**

- Technical expertise, a "good eye," imagination, and creativity are essential.
- Only the most skilled and talented who have good business sense maintain long-term careers.
- More than half of all photographers are self-employed, a much higher proportion than the average for all occupations.

**Nature of the Work**
Photographers produce and preserve images that paint a picture, tell a story, or record an event. To create commercial quality photographs, photographers need both technical expertise and creativity. Producing a successful picture requires choosing and presenting a subject to achieve a particular effect and selecting the appropriate equipment. For example, photographers may enhance the subject's appearance with lighting or draw attention to a particular aspect of the subject by blurring the background.

Today, many cameras adjust settings like shutter speed and aperture automatically. They also let the photographer adjust these settings manually, allowing greater creative and technical control over the picture-taking process. In addition to automatic and manual cameras, photographers use an array of film, lenses, and equipment—from filters, tripods, and flash attachments to specially constructed lighting equipment.

Photographers use either a traditional camera or a newer digital camera that electronically records images. A traditional camera records images on silver halide film that is developed into prints. Some photographers send their film to laboratories for processing. Color film requires expensive equipment and exacting conditions for correct processing and printing. (See the statement on photographic process workers and processing machine operators elsewhere in the *Handbook*.) Other photographers, especially those who use black and white film or require special effects, prefer to develop and print their own photographs. Photographers who do their own film developing must have the technical skill to operate a fully equipped darkroom or the appropriate computer software to process prints digitally.

Recent advances in electronic technology now make it possible for the professional photographer to develop and scan standard 35mm or other types of film, and use flatbed scanners and photofinishing laboratories to produce computer-readable, digital images from film. After converting the film to a digital image, photographers can edit and electronically transmit images, making it easier and faster to shoot, develop, and transmit pictures from remote locations.

Using computers and specialized software, photographers also can manipulate and enhance the scanned or digital image to create a desired effect. Images can be stored on compact disk (CD) the same way as music. Digital technology also allows the production of larger, more colorful, and more accurate prints or images for use in advertising, photographic art, and scientific research. Some

photographers use this technology to create electronic portfolios, as well. Because much photography now involves the use of computer technology, photographers must have hands-on knowledge of computer editing software.

Some photographers specialize in areas such as portrait, commercial and industrial, scientific, news, or fine arts photography. *Portrait photographers* take pictures of individuals or groups of people and often work in their own studios. Some specialize in weddings or school photographs and may work on location. Portrait photographers who are business owners arrange for advertising, schedule appointments, set and adjust equipment, develop and retouch negatives, and mount and frame pictures. They also purchase supplies, keep records, bill customers, and may hire and train employees.

*Commercial and industrial photographers* take pictures of various subjects, such as buildings, models, merchandise, artifacts, and landscapes. These photographs are used in a variety of media, including books, reports, advertisements, and catalogs. Industrial photographers often take pictures of equipment, machinery, products, workers, and company officials. The pictures then are used for analyzing engineering projects, publicity, or as records of equipment development or deployment, such as placement of an offshore rig. This photography frequently is done on location.

*Scientific photographers* photograph a variety of subjects to illustrate or record scientific or medical data or phenomena, using knowledge of scientific procedures. They typically possess additional knowledge in areas such as engineering, medicine, biology, or chemistry.

*News photographers*, also called *photojournalists*, photograph newsworthy people; places; and sporting, political, and community events for newspapers, journals, magazines, or television. Some news photographers are salaried staff; others are self-employed and are known as freelance photographers.

*Fine arts photographers* sell their photographs as fine artwork. In addition to technical proficiency, fine arts photographers need artistic talent and creativity.

Self-employed, or freelance, photographers may license the use of their photographs through stock photo agencies or contract with clients or agencies to provide photographs as necessary. Stock agencies grant magazines and other customers the right to purchase the use of photographs, and, in turn, pay the photographer on a commission basis. Stock photo agencies require an application from the photographer and a sizable portfolio. Once accepted, a large number of new submissions usually are required from the photographer each year.

*Photographers must possess technical expertise, a good eye, and imagination.*

**Working Conditions**

Working conditions for photographers vary considerably. Photographers employed in government and advertising agencies usually work a 5-day, 40-hour week. On the other hand, news photographers often work long, irregular hours and must be available to work on short notice. Many photographers work part time or variable schedules.

Portrait photographers usually work in their own studios but also may travel to take photographs at the client's location, such as a school, a company office, or a private home. News and commercial photographers frequently travel locally, stay overnight on assignments, or travel to distant places for long periods.

Some photographers work in uncomfortable, or even dangerous surroundings, especially news photographers covering accidents, natural disasters, civil unrest, or military conflicts. Many photographers must wait long hours in all kinds of weather for an event to take place and stand or walk for long periods while carrying heavy equipment. News photographers often work under strict deadlines.

Self-employment allows for greater autonomy, freedom of expression, and flexible scheduling. However, income can be uncertain and the continuous, time-consuming search for new clients can be stressful. Some self-employed photographers hire assistants who help seek out new business.

**Employment**

Photographers held about 131,000 jobs in 2000. More than half were self-employed, a much higher proportion than the average for all occupations. Some self-employed photographers contracted with advertising agencies, magazines, or others to do individual projects at a predetermined fee, while others operated portrait studios or provided photographs to stock photo agencies.

Most salaried photographers worked in portrait or commercial photography studios. Newspapers, magazines, television broadcasters, advertising agencies, and government agencies employed most of the others. Most photographers worked in metropolitan areas.

**Training, Other Qualifications, and Advancement**

Employers usually seek applicants with a "good eye," imagination, and creativity, as well as a good technical understanding of photography. Entry-level positions in photojournalism, industrial, or scientific photography generally require a college degree in journalism or photography. Freelance and portrait photographers need technical proficiency, whether gained through a degree program, vocational training, or extensive work experience.

Many universities, community and junior colleges, vocational-technical institutes, and private trade and technical schools offer photography courses. Basic courses in photography cover equipment, processes, and techniques. Bachelor's degree programs, especially those including business courses, provide a well-rounded education. Art schools offer useful training in design and composition.

Individuals interested in photography should subscribe to photographic newsletters and magazines, join camera clubs, and seek summer or part-time employment in camera stores, newspapers, or photo studios.

Photographers may start out as assistants to experienced photographers. Assistants learn to mix chemicals, develop film, print photographs, and the other skills necessary to run a portrait or commercial photography business. Freelance photographers also should develop an individual style of photography in order to differentiate themselves from the competition. Some photographers enter the field by submitting unsolicited photographs to magazines and art directors at advertising agencies. For freelance photographers, a good portfolio of their work is critical.

Photographers need good eyesight, artistic ability, and hand-eye coordination. They should be patient, accurate, and detail-oriented. Photographers should be able to work well with others, as they frequently deal with clients, graphic designers, or advertising and publishing specialists. Increasingly, photographers need to know computer software programs and applications that allow them to prepare and edit images.

Portrait photographers need the ability to help people relax in front of the camera. Commercial and fine arts photographers must be imaginative and original. News photographers not only must be good with a camera, but also must understand the story behind an event so their pictures match the story. They must be decisive in recognizing a potentially good photograph and act quickly to capture it.

Photographers who operate their own businesses, or freelance, need business skills as well as talent. These individuals must know how to prepare a business plan; submit bids; write contracts; hire models, if needed; get permission to shoot on locations that normally are not open to the public; obtain releases to use photographs of people; license and price photographs; secure copyright protection for their work; and keep financial records.

After several years of experience, magazine and news photographers may advance to photography or picture editor positions. Some photographers teach at technical schools, film schools, or universities.

**Job Outlook**

Photographers can expect keen competition for job openings because the work is attractive to many people. The number of individuals interested in positions as commercial and news photographers usually is much greater than the number of openings. Those who succeed in landing a salaried job or attracting enough work to earn a living by freelancing are likely to be the most creative, able to adapt to rapidly changing technologies, and adept at operating a business. Related work experience, job-related training, or some unique skill or talent—such as a background in computers or electronics—also are beneficial to prospective photographers.

Employment of photographers is expected to increase about as fast as the average for all occupations through 2010. Demand for portrait photographers should increase as the population grows. And, as the number of electronic versions of magazines, journals, and newspapers grows on the Internet, photographers will be needed to provide digital images.

Employment growth of photographers will be constrained somewhat by the widespread use of digital photography. Besides increasing photographers' productivity, improvements in digital technology will allow individual consumers and businesses to produce, store, and access photographic images on their own. Declines in the newspaper industry will reduce demand for photographers to provide still images for print.

**Earnings**

Median annual earnings of salaried photographers were $22,300 in 2000. The middle 50 percent earned between $16,790 and $33,020. The lowest 10 percent earned less than $13,760, and the highest 10 percent earned more than $46,890. Median annual earnings in the industries employing the largest numbers of salaried photographers were as follows:

| | |
|---|---|
| Radio and television broadcasting | $29,890 |
| Mailing, reproduction, and stenographic services | 29,610 |
| Newspapers | 28,660 |
| Photographic studios, portrait | 19,290 |

Salaried photographers—more of whom work full time—tend to earn more than those who are self-employed. Because most freelance and portrait photographers purchase their own equipment, they incur considerable expense acquiring and maintaining cameras and accessories. Unlike news and commercial photographers, few fine arts photographers are successful enough to support themselves solely through their art.

**Related Occupations**

Other occupations requiring artistic talent include architects, except landscape and naval; artists and related workers; designers; and television, video, and motion picture camera operators and editors.

**Sources of Additional Information**

Career information on photography is available from:

➤ Professional Photographers of America, Inc., 229 Peachtree St. NE., Suite 2200, Atlanta, GA 30303. Internet**: http://www.ppa.com**

➤ National Press Photographers Association, Inc., 3200 Croasdaile Dr., Suite 306, Durham, NC 27705. Internet: **http://www.nppa.org/default.cfm**

## Public Relations Specialists

(O*NET 27-3031.00)

**Significant Points**

- Although employment is projected to increase much faster than the average, keen competition is expected for entry-level jobs.
- Opportunities should be best for college graduates who combine a degree in public relations or other communications-related fields with a public relations internship or other related work experience.
- The ability to write and speak well is essential.

**Nature of the Work**

An organization's reputation, profitability, and even its continued existence can depend on the degree to which its targeted "publics" support its goals and policies. Public relations specialists serve as advocates for businesses, nonprofit associations, universities, hospitals, and other organizations, and build and maintain positive relationships with the public. As managers recognize the growing importance of good public relations to the success of their organizations, they increasingly rely on public relations specialists for advice on the strategy and policy of such programs.

Public relations specialists handle organizational functions such as media, community, consumer, and governmental relations; political campaigns; interest-group representation; conflict mediation; or employee and investor relations. However, public relations is not only "telling the organization's story." Understanding the attitudes and concerns of consumers, employees, and various other groups also is a vital part of the job. To improve communications, public relations specialists establish and maintain cooperative relationships with representatives of community, consumer, employee, and public interest groups and with representatives from print and broadcast journalism.

Informing the general public, interest groups, and stockholders of an organization's policies, activities, and accomplishments is an important part of a public relations specialist's job. The work also involves keeping management aware of public attitudes and concerns of the many groups and organizations with which they must deal.

Public relations specialists prepare press releases and contact people in the media who might print or broadcast their material. Many radio or television special reports, newspaper stories, and magazine articles start at the desks of public relations specialists.

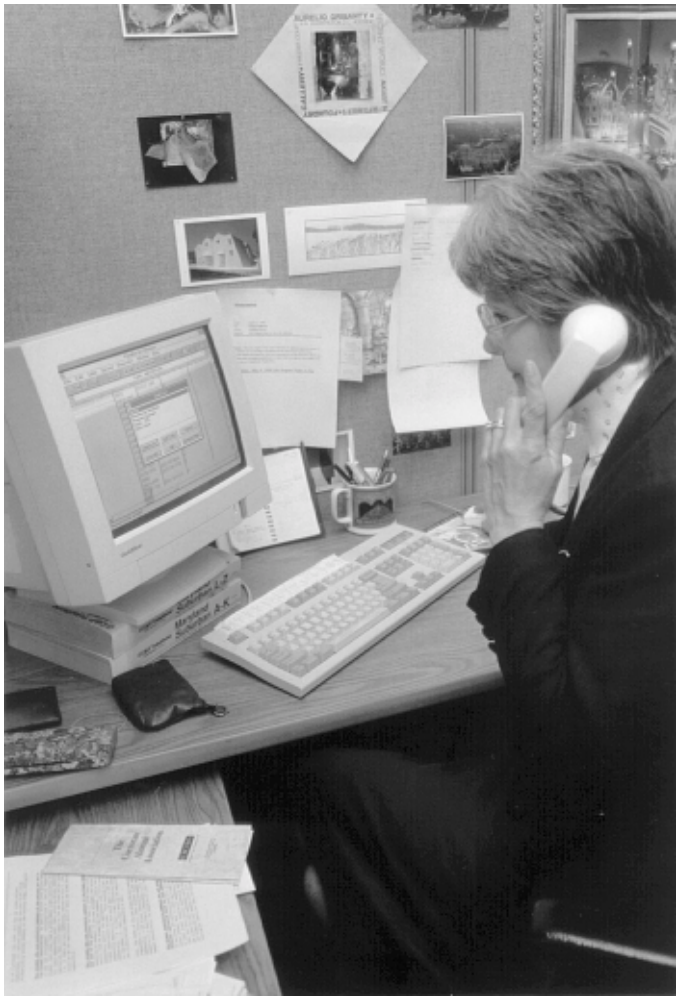
Sometimes the subject is an organization and its policies towards its employees or its role in the community. Often the subject is a public issue, such as health, energy, or the environment.

Public relations specialists also arrange and conduct programs to keep up contact between organization representatives and the public. For example, they set up speaking engagements and often prepare speeches for company officials. These specialists represent employers at community projects; make film, slide, or other visual presentations at meetings and school assemblies; and plan conventions. In addition, they are responsible for preparing annual reports and writing proposals for various projects.

In government, public relations specialists—who may be called press secretaries, information officers, public affairs specialists, or communications specialists—keep the public informed about the activities of government agencies and officials. For example, public affairs specialists in the Department of State keep the public informed of travel advisories and of U.S. positions on foreign issues. A press secretary for a member of Congress keeps constituents aware of the representative's accomplishments.

In large organizations, the key public relations executive, who often is a vice president, may develop overall plans and policies with other executives. In addition, public relations departments employ public relations specialists to write, research, prepare materials, maintain contacts, and respond to inquiries.

People who handle publicity for an individual or who direct public relations for a small organization may deal with all aspects of the job. They contact people, plan and research, and prepare material for distribution. They also may handle advertising or sales promotion work to support marketing.



*Public relations specialists maintain contact with management and public organizations and groups.*

**Working Conditions**

Some public relations specialists work a standard 35- to 40-hour week, but unpaid overtime is common. Occasionally, they must be at the job or on call around the clock, especially if there is an emergency or crisis. Public relations offices are busy places; work schedules can be irregular and frequently interrupted. Schedules often have to be rearranged so that workers can meet deadlines, deliver speeches, attend meetings and community activities, or travel.

**Employment**

Public relations specialists held about 137,000 jobs in 2000. About 6 out of 10 salaried public relations specialists worked in services industries—management and public relations firms, membership organizations, educational institutions, healthcare organizations, social service agencies, and advertising agencies, for example. Others worked for communications firms, financial institutions, and government agencies. About 8,600 public relations specialists were self-employed.

Public relations specialists are concentrated in large cities, where press services and other communications facilities are readily available and many businesses and trade associations have their headquarters. Many public relations consulting firms, for example, are in New York, Los Angeles, Chicago, and Washington, DC. There is a trend, however, for public relations jobs to be dispersed throughout the Nation, closer to clients.

**Training, Other Qualifications, and Advancement**

There are no defined standards for entry into a public relations career. A college degree combined with public relations experience, usually gained through an internship, is considered excellent preparation for public relations work; in fact, internships are becoming vital to obtaining employment. The ability to write and speak well is essential. Many entry-level public relations specialists have a college major in public relations, journalism, advertising, or communications. Some firms seek college graduates who have worked in electronic or print journalism. Other employers seek applicants with demonstrated communications skills and training or experience in a field related to the firm's business—science, engineering, sales, or finance, for example.

Many colleges and universities offer bachelor's and postsecondary degrees in public relations, usually in a journalism or communications department. In addition, many other colleges offer at least one course in this field. A common public relations sequence includes courses in public relations principles and techniques; public relations management and administration, including organizational development; writing, emphasizing news releases, proposals, annual reports, scripts, speeches, and related items; visual communications, including desktop publishing and computer graphics; and research, emphasizing social science research and survey design and implementation. Courses in advertising, journalism, business administration, finance, political science, psychology, sociology, and creative writing also are helpful. Specialties are offered in public relations for business, government, and nonprofit organizations.

Many colleges help students gain part-time internships in public relations that provide valuable experience and training. The Armed Forces also can be an excellent place to gain training and experience. Membership in local chapters of the Public Relations Student Society of America (affiliated with the Public Relations Society of America) or the International Association of Business Communicators provides an opportunity for students to exchange views with public relations specialists and to make professional

contacts that may help them find a job in the field. A portfolio of published articles, television or radio programs, slide presentations, and other work is an asset in finding a job. Writing for a school publication or television or radio station provides valuable experience and material for one's portfolio.

Creativity, initiative, good judgment, and the ability to express thoughts clearly and simply are essential. Decision-making, problem-solving, and research skills also are important.

People who choose public relations as a career need an outgoing personality, self-confidence, an understanding of human psychology, and an enthusiasm for motivating people. They should be competitive, yet flexible, and able to function as part of a team.

Some organizations, particularly those with large public relations staffs, have formal training programs for new employees. In smaller organizations, new employees work under the guidance of experienced staff members. Beginners often maintain files of material about company activities, scan newspapers and magazines for appropriate articles to clip, and assemble information for speeches and pamphlets. They also may answer calls from the press and public, work on invitation lists and details for press conferences, or escort visitors and clients. After gaining experience, they write news releases, speeches, and articles for publication or design and carry out public relations programs. Public relations specialists in smaller firms usually get all-around experience, whereas those in larger firms tend to be more specialized.

The Public Relations Society of America accredits public relations specialists who have at least 5 years of experience in the field and have passed a comprehensive 6-hour examination (5 hours written, 1 hour oral). The International Association of Business Communicators also has an accreditation program for professionals in the communications field, including public relations specialists. Those who meet all the requirements of the program earn the Accredited Business Communicator designation. Candidates must have at least 5 years of experience in a communication field and pass a written and oral examination. They also must submit a portfolio of work samples demonstrating involvement in a range of communication projects and a thorough understanding of communication planning. Employers may consider professional recognition through accreditation a sign of competence in this field, which could be especially helpful in a competitive job market.

Promotion to supervisory jobs may come as public relations specialists show that they can handle more demanding assignments. In public relations firms, a beginner may be hired as a research assistant or account assistant and be promoted to account executive, account supervisor, vice president, and, eventually, senior vice president. A similar career path is followed in corporate public relations, although the titles may differ. Some experienced public relations specialists start their own consulting firms. (For more information on public relations managers, see the *Handbook* statement on advertising, marketing, promotions, public relations, and sales managers.)

**Job Outlook**

Keen competition will likely continue for entry-level public relations jobs as the number of qualified applicants is expected to exceed the number of job openings. Many people are attracted to this profession due to the high-profile nature of the work and the relative ease of entry. Opportunities should be best for college graduates who combine a degree in journalism, public relations, advertising, or another communications-related field with a public relations internship or other related work experience. Applicants without the appropriate educational background or work experience will face the toughest obstacles.

Employment of public relations specialists is expected to increase much faster than the average for all occupations through 2010. The need for good public relations in an increasingly competitive business environment should spur demand for public relations specialists in organizations of all sizes. Employment in public relations firms should grow as firms hire contractors to provide public relations services rather than support full-time staff. In addition to employment growth, job opportunities should result from the need to replace public relations specialists who take other jobs or who leave the occupation altogether.

**Earnings**

Median annual earnings for salaried public relations specialists were $39,580 in 2000. The middle 50 percent earned between $29,610 and $53,620; the lowest 10 percent earned less than $22,780, and the top 10 percent earned more than $70,480. Median annual earnings in the industries employing the largest numbers of public relations specialists in 2000 were:

| | |
|---|---|
| Management and public relations | $43,690 |
| Local government | 40,760 |
| State government | 39,560 |
| Colleges and universities | 35,080 |

According to a joint survey conducted by the International Association of Business Communicators and the Public Relations Society of America, the median annual income for a public relations specialist was $39,000 in 1999.

**Related Occupations**

Public relations specialists create favorable attitudes among various organizations, special interest groups, and the public through effective communication. Other workers with similar jobs include advertising, marketing, promotions, public relations, and sales managers; demonstrators, product promoters, and models; news analysts, reporters, and correspondents; lawyers; and police and detectives involved in community relations.

**Sources of Additional Information**

A comprehensive directory of schools offering degree programs, a sequence of study in public relations, a brochure on careers in public relations, and a $5 brochure entitled, *Where Shall I go to Study Advertising and Public Relations?*, are available from:

➤ Public Relations Society of America, Inc., 33 Irving Place, New York, NY 10003-2376. Internet: **http://www.prsa.org**

For information on accreditation for public relations specialists, contact:

➤ International Association of Business Communicators, One Hallidie Plaza, Suite 600, San Francisco, CA 94102. Internet: **http://www.iabc.com**

## Television, Video, and Motion Picture Camera Operators and Editors

(O*NET 27-4031.00, 27-4032.00)

**Significant Points**

- Technical expertise, a "good eye," imagination, and creativity are essential.
- Keen competition for job openings is expected, because many talented peopled are attracted to the field.
- About one-fourth of camera operators are self-employed.

**Nature of the Work**

*Television, video, and motion picture camera operators* produce images that tell a story, inform or entertain an audience, or record an event. *Film and video editors* edit soundtracks, film, and video for the motion picture, cable, and broadcast television industries. Some camera operators do their own editing.

Making commercial quality movies and video programs requires technical expertise and creativity. Producing successful images requires choosing and presenting interesting material, selecting appropriate equipment, and applying a good eye and steady hand to assure smooth natural movement of the camera.

Camera operators use television, video, or motion picture cameras to shoot a wide range of subjects, including television series, studio programs, news and sporting events, music videos, motion pictures, documentaries, and training sessions. Some film or videotape private ceremonies and special events. Those who record images on videotape are often called *videographers*. Many are employed by independent television stations, local affiliates, large cable and television networks, or smaller, independent production companies. *Studio camera operators* work in a broadcast studio and usually videotape their subjects from a fixed position. *News camera operators*, also called *electronic news gathering (ENG) operators*, work as part of a reporting team, following newsworthy events as they unfold. To capture live events, they must anticipate the action and act quickly. ENG operators may need to edit raw footage on the spot for relay to a television affiliate for broadcast.

Camera operators employed in the entertainment field use motion picture cameras to film movies, television programs, and commercials. Those who film motion pictures are also known as *cinematographers*. Some specialize in filming cartoons or special effects. They may be an integral part of the action, using cameras in any of several different camera mounts. For example, the camera operator can be stationary and shoot whatever passes in front of the lens, or the camera can be mounted on a track, with the camera operator responsible for shooting the scene from different angles or directions. Other camera operators sit on cranes and follow the action, while crane operators move them into position. *Steadicam operators* mount a harness and carry the camera on their shoulders to provide a more solid picture while they move about the action. Camera operators who work in the entertainment field often meet with directors, actors, editors, and camera assistants to discuss ways of filming, editing, and improving scenes.

*Film and video editors use sophisticated digital equipment to edit images and mix sound.*

**Working Conditions**

Working conditions for camera operators and editors vary considerably. Those employed in government, television and cable networks, and advertising agencies usually work a 5-day, 40-hour week. On the other hand, ENG operators often work long, irregular hours and must be available to work on short notice. Camera operators and editors working in motion picture production also may work long, irregular hours.

ENG operators and those who cover major events, such as conventions or sporting events, frequently travel locally, stay overnight on assignments, or travel to distant places for longer periods. Camera operators filming television programs or motion pictures may travel to film on location.

Some camera operators work in uncomfortable, or even dangerous surroundings, especially ENG operators covering accidents, natural disasters, civil unrest, or military conflicts. Many camera operators must wait long hours in all kinds of weather for an event to take place and stand or walk for long periods while carrying heavy equipment. ENG operators often work under strict deadlines.

**Employment**

Television, video, and motion picture camera operators held about 27,000 jobs in 2000; and film and video editors held about 16,000. One-fourth of camera operators were self-employed. Some self-employed camera operators contracted with television networks, documentary or independent filmmakers, advertising agencies, or trade show or convention sponsors to do individual projects for a predetermined fee, often at a daily rate.

Most salaried camera operators were employed by television broadcasting stations or motion picture studios. Half of the salaried film and video editors worked for motion picture studios. Most camera operators and editors worked in metropolitan areas.

**Training, Other Qualifications, and Advancement**

Employers usually seek applicants with a "good eye," imagination, and creativity, as well as a good technical understanding of camera operation. Camera operators and editors usually acquire their skills through on-the-job training or formal postsecondary training at vocational schools, colleges, universities, or photographic institutes. Formal education may be required for some positions.

Many universities, community and junior colleges, vocational-technical institutes, and private trade and technical schools offer courses in camera operation and videography. Basic courses cover equipment, processes, and techniques. Bachelor's degree programs, especially those including business courses, provide a well-rounded education.

Individuals interested in camera operations should subscribe to videographic newsletters and magazines, join clubs, and seek summer or part-time employment in cable and television networks, motion picture studios, or camera and video stores.

Camera operators in entry-level jobs learn to set up lights, cameras, and other equipment. They may receive routine assignments requiring camera adjustments or decisions on what subject matter to capture. Camera operators in the film and television industries usually are hired for a project based on recommendations from individuals such as producers, directors of photography, and camera assistants from previous projects, or through interviews with the producer. ENG and studio camera operators who work for television affiliates usually start in small markets to gain experience.

Camera operators need good eyesight, artistic ability, and hand-eye coordination. They should be patient, accurate, and detail-oriented. Camera operators also should have good communication skills, and, if needed, the ability to hold a camera by hand for extended periods.

Camera operators who operate their own businesses, or freelance, need business skills as well as talent. These individuals must know how to submit bids; write contracts; get permission to shoot on locations that normally are not open to the public; obtain releases to use film or tape of people; price their services; secure copyright protection for their work; and keep financial records.

With increased experience, operators may advance to more demanding assignments or positions with larger or network television stations. Advancement for ENG operators may mean moving to larger media markets. Other camera operators and editors may become directors of photography for movie studios, advertising agencies, or television programs. Some teach at technical schools, film schools, or universities.

**Job Outlook**

Camera operators and editors can expect keen competition for job openings because the work is attractive to many people. The number of individuals interested in positions as videographers and movie camera operators usually is much greater than the number of openings. Those who succeed in landing a salaried job or attracting enough work to earn a living by freelancing are likely to be the most creative, highly motivated, able to adapt to rapidly changing technologies, and adept at operating a business. Related work experience or job-related training also are beneficial to prospective camera operators.

Employment of camera operators and editors is expected to grow faster than the average for all occupations through 2010. Rapid expansion of the entertainment market, especially motion picture production and distribution, will spur growth of camera operators. In addition, computer and Internet services provide new outlets for interactive productions. Camera operators will be needed to film made-for-the-Internet broadcasts such as live music videos, digital movies, sports, and general information or entertainment programming. These images can be delivered directly into the home either on compact discs or over the Internet. Modest growth also is expected in radio and television broadcasting.

**Earnings**

Median annual earnings for television, video, and motion picture camera operators were $27,870 in 2000. The middle 50 percent earned between $19,230 and $44,150. The lowest 10 percent earned less than $14,130, and the highest 10 percent earned more than $63,690. Median annual earnings were $31,560 in motion picture production and services and $23,470 in radio and television broadcasting.

Median annual earnings for film and video editors were $34,160 in 2000. The middle 50 percent earned between $24,800 and $52,000. The lowest 10 percent earned less than $18,970, and the highest 10 percent earned more than $71,280. Median annual earnings were $36,770 in motion picture production and services, the industry employing the largest numbers of film and video editors.

Many camera operators who work in film or video are freelancers; their earnings tend to fluctuate each year. Because most freelance camera operators purchase their own equipment, they incur considerable expense acquiring and maintaining cameras and accessories.

**Related Occupations**

Related arts and media occupations include artists and related workers, broadcast and sound engineering technicians and radio operators, designers, and photographers.

**Sources of Additional Information**

Information about career and employment opportunities for camera operators and film and video editors is available from local offices of State employment service agencies, local offices of the relevant trade unions, and local television and film production companies who employ these workers.

## Writers and Editors

(O*NET 27-3041.00, 27-3042.00, 27-3043.01, 27-3043.02, 27-3043.04)

**Significant Points**

- Most jobs require a college degree either in the liberal arts—communications, journalism, and English are preferred—or a technical subject for technical writing positions.
- Competition is expected to be less for lower paying, entry-level jobs at small daily and weekly newspapers, trade publications, and radio and television broadcasting stations in small markets.
- Persons who fail to gain better paying jobs or earn enough as independent writers usually are able to transfer readily to communications-related jobs in other occupations.

**Nature of the Work**

Writers and editors communicate through the written word. Writers and editors generally fall into one of three categories. *Writers and authors* develop original fiction and nonfiction for books, magazines and trade journals, newspapers, online publications, company newsletters, radio and television broadcasts, motion pictures, and advertisements. *Technical writers* develop scientific or technical materials, such as scientific and medical reports, equipment manuals, appendices, or operating and maintenance instructions. They also may assist in layout work. *Editors* select and prepare material for publication or broadcast and review and prepare a writer's work for publication or dissemination.

Nonfiction writers either select a topic or are assigned one, often by an editor or publisher. Then, they gather information through personal observation, library and Internet research, and interviews. Writers select the material they want to use, organize it, and use the written word to express ideas and convey information. Writers also revise or rewrite sections, searching for the best organization or the right phrasing. Reporters and correspondents—including newswriters, columnists, and editorial writers—are described elsewhere in the *Handbook.*

*Creative writers, poets, and lyricists,* including novelists, playwrights, and screenwriters, create original works—such as prose, poems, plays, and song lyrics—for publication or performance. Some works may be commissioned (at the request of a sponsor); others may be written for hire (based on completion of a draft or an outline). *Copy writers* prepare advertising copy for use by publication or broadcast media, or to promote the sale of goods and services. *Newsletter writers* produce information for distribution to association members, corporate employees, organizational clients, or the public. Writers and authors also construct crossword puzzles and prepare speeches.

*Technical writers* put scientific and technical information into easily understandable language. They prepare scientific and technical reports, operating and maintenance manuals, catalogs, parts lists, assembly instructions, sales promotion materials, and project proposals. They also plan and edit technical reports and oversee preparation of illustrations, photographs, diagrams, and charts. *Science and medical writers* prepare a range of formal documents presenting detailed information on the physical or medical sciences. They impart research findings for scientific or medical professions, organize information for advertising or public relations needs, and interpret data and other information for a general readership.

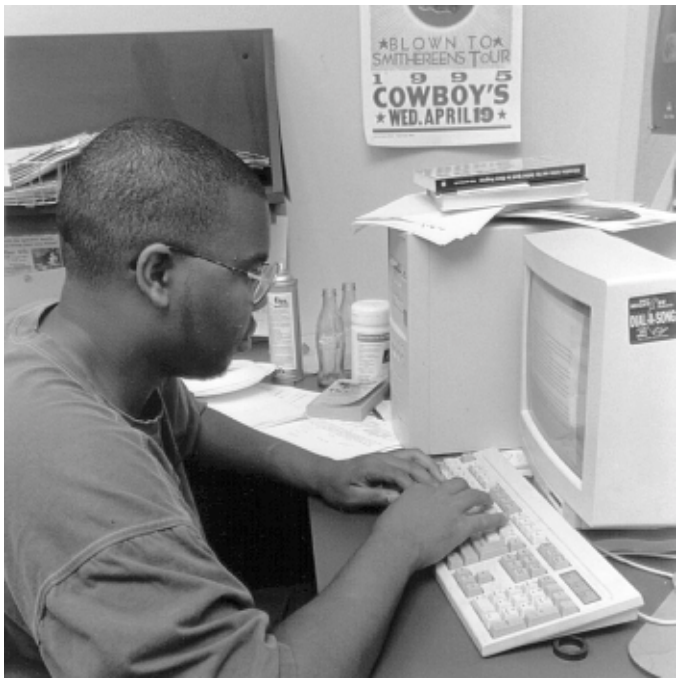
Many writers prepare material directly for the Internet. For example, they may write for electronic newspapers or magazines, create short fiction, or produce technical documentation only available online. Also, they may write the text of Web sites. These writers should be knowledgeable about graphic design, page layout and desktop publishing software. Additionally, they should be familiar with interactive technologies of the Web so they can blend text, graphics, and sound together.

Freelance writers sell their work to publishers, publication enterprises, manufacturing firms, public relations departments, or advertising agencies. Sometimes, they contract with publishers to write a book or article. Others may be hired on a job-basis to complete specific assignments such as writing about a new product or technique.

*Editors* review, rewrite, and edit the work of writers. They may also do original writing. An editor's responsibilities vary depending on the employer and type and level of editorial position held. In the publishing industry, an editor's primary duties are to plan the contents of books, technical journals, trade magazines, and other general interest publications. Editors decide what material will appeal to readers, review and edit drafts of books and articles, offer comments to improve the work, and suggest possible titles. Additionally, they oversee the production of the publications.

Major newspapers and newsmagazines usually employ several types of editors. The *executive editor* oversees *assistant editors* who have responsibility for particular subjects, such as local news, international news, feature stories, or sports. Executive editors generally have the final say about what stories are published and how they are covered. The *managing editor* usually is responsible for the daily operation of the news department. *Assignment editors* determine which reporters will cover a given story. *Copy editors* mostly review and edit a reporter's copy for accuracy, content, grammar, and style.

In smaller organizations, like small daily or weekly newspapers or membership newsletter departments, a single editor may do everything or share responsibility with only a few other people. Executive and managing editors typically hire writers, reporters, or other employees. They also plan budgets and negotiate contracts with freelance writers, sometimes called "stringers" in the news industry. In broadcasting companies, *program directors* have similar responsibilities.




*Most writers and editors use computers and other communications equipment to compose and transmit content.*

Editors and program directors often have assistants. Many assistants, such as copy editors or *production assistants*, hold entry-level jobs. They review copy for errors in grammar, punctuation, and spelling, and check copy for readability, style, and agreement with editorial policy. They suggest revisions, such as changing words or rearranging sentences to improve clarity or accuracy. They also do research for writers and verify facts, dates, and statistics. Production assistants arrange page layouts of articles, photographs, and advertising; compose headlines; and prepare copy for printing. *Publication assistants* who work for publishing houses may read and evaluate manuscripts submitted by freelance writers, proofread printers' galleys, or answer letters about published material. Production assistants on small papers or in radio stations compile articles available from wire services or the Internet, answer phones, and make photocopies.

Most writers and editors use personal computers or word processors. Many use desktop or electronic publishing systems, scanners, and other electronic communications equipment.

**Working Conditions**

Some writers and editors work in comfortable, private offices; others work in noisy rooms filled with the sound of keyboards and computer printers as well as the voices of other writers tracking down information over the telephone. The search for information sometimes requires travel to diverse workplaces, such as factories, offices, or laboratories, but many have to be content with telephone interviews, the library, and the Internet.

For some writers, the typical workweek runs 35 to 40 hours. However, writers occasionally may work overtime to meet production deadlines. Those who prepare morning or weekend publications and broadcasts work some nights and weekends. Freelance writers generally work more flexible hours, but their schedules must conform to the needs of the client. Deadlines and erratic work hours, often part of the daily routine for these jobs, may cause stress, fatigue, or burnout.

Changes in technology and electronic communications also affect a writer's work environment. For example, laptops allow writers to work from home or while on the road. Writers and editors who use computers for extended periods may experience back pain, eyestrain, or fatigue.

**Employment**

Writers and editors held about 305,000 jobs in 2000. About 126,000 jobs were for writers and authors; 57,000 were for technical writers; and 122,000 were for editors. Nearly one-fourth of jobs for writers and editors were salaried positions with newspapers, magazines, and book publishers. Substantial numbers, mostly technical writers, work for computer software firms. Other salaried writers and editors work in educational facilities, advertising agencies, radio and television broadcasting studios, public relations firms, and business and nonprofit organizations, such as professional associations, labor unions, and religious organizations. Some develop publications and technical materials for government agencies or write for motion picture companies.

Jobs with major book publishers, magazines, broadcasting companies, advertising agencies, and public relations firms are concentrated in New York, Chicago, Los Angeles, Boston, Philadelphia, and San Francisco. Jobs with newspapers, business and professional journals, and technical and trade magazines are more widely dispersed throughout the country.

Thousands of other individuals work as freelance writers, earning some income from their articles, books, and less commonly,

television and movie scripts. Most support themselves with income derived from other sources.

**Training, Other Qualifications, and Advancement**

A college degree generally is required for a position as a writer or editor. Although some employers look for a broad liberal arts background, most prefer to hire people with degrees in communications, journalism, or English. For those who specialize in a particular area, such as fashion, business, or legal issues, additional background in the chosen field is expected. Knowledge of a second language is helpful for some positions.

Technical writing requires a degree in, or some knowledge about, a specialized field—engineering, business, or one of the sciences, for example. In many cases, people with good writing skills can learn specialized knowledge on the job. Some transfer from jobs as technicians, scientists, or engineers. Others begin as research assistants, or trainees in a technical information department, develop technical communication skills, and then assume writing duties.

Writers and editors must be able to express ideas clearly and logically and should love to write. Creativity, curiosity, a broad range of knowledge, self-motivation, and perseverance also are valuable. Writers and editors must demonstrate good judgment and a strong sense of ethics in deciding what material to publish. Editors also need tact and the ability to guide and encourage others in their work.

For some jobs, the ability to concentrate amid confusion and to work under pressure is essential. Familiarity with electronic publishing, graphics, and video production equipment increasingly is needed. Online newspapers and magazines require knowledge of computer software used to combine online text with graphics, audio, video, and 3-D animation.

High school and college newspapers, literary magazines, community newspapers, and radio and television stations all provide valuable, but sometimes unpaid, practical writing experience. Many magazines, newspapers, and broadcast stations have internships for students. Interns write short pieces, conduct research and interviews, and learn about the publishing or broadcasting business.

In small firms, beginning writers and editors hired as assistants may actually begin writing or editing material right away. Opportunities for advancement can be limited, however. In larger businesses, jobs usually are more formally structured. Beginners generally do research, factchecking, or copy editing. They take on full-scale writing or editing duties less rapidly than do the employees of small companies. Advancement often is more predictable, though, coming with the assignment of more important articles.

**Job Outlook**

Employment of writers and editors is expected to increase faster than the average for all occupations through the year 2010. Employment of salaried writers and editors for newspapers, periodicals, book publishers, and nonprofit organizations is expected to increase as demand grows for their publications. Magazines and other periodicals increasingly are developing market niches, appealing to readers with special interests. Also, online publications and services are growing in number and sophistication, spurring the demand for writers and editors. Businesses and organizations are developing newsletters and Internet websites and more companies are experimenting with publishing materials directly for the Internet. Advertising and public relations agencies, which also are growing, should be another source of new jobs. Demand for technical writers and writers with expertise in specialty areas, such as law, medicine, or economics, is expected to increase because of the continuing expansion of scientific and technical information and the need to communicate it to others.

In addition to job openings created by employment growth, many openings will occur as experienced workers retire, transfer to other occupations, or leave the labor force. Replacement needs are relatively high in this occupation; many freelancers leave because they cannot earn enough money.

Despite projections of fast employment growth and numerous replacement needs, the outlook for most writing and editing jobs is expected to be competitive. Many people with writing or journalism training are attracted to the occupation. Opportunities should be best for technical writers and those with training in a specialized field. Rapid growth and change in the high technology and electronics industries result in a greater need for people to write users' guides, instruction manuals, and training materials. Developments and discoveries in the law, science, and technology generate demand for people to interpret technical information for a more general audience. This work requires people who are not only technically skilled as writers, but also familiar with the subject area. Also, individuals with the technical skills for working on the Internet may have an advantage finding a job as a writer or editor.

Opportunities for editing positions on small daily and weekly newspapers and in small radio and television stations, where the pay is low, should be better than those in larger media markets. Some small publications hire freelance copy editors as backup for staff editors or as additional help with special projects. Aspiring writers and editors benefit from academic preparation in another discipline as well, either to qualify them as writers specializing in that discipline or as a career alternative if they are unable to get a job in writing.

**Earnings**

Median annual earnings for salaried writers and authors were $42,270 in 2000. The middle 50 percent earned between $29,090 and $57,330. The lowest 10 percent earned less than $20,290, and the highest 10 percent earned more than $81,370. Median annual earnings were $26,470 in the newspaper industry.

Median annual earnings for salaried technical writers were $47,790 in 2000. The middle 50 percent earned between $37,280 and $60,000. The lowest 10 percent earned less than $28,890, and the highest 10 percent earned more than $74,360. Median annual earnings in computer and data processing services were $51,220.

Median annual earnings for salaried editors were $39,370 in 2000. The middle 50 percent earned between $28,880 and $54,320. The lowest 10 percent earned less than $22,460, and the highest 10 percent earned more than $73,330. Median annual earnings in the industries employing the largest numbers of editors were as follows:

| | |
|---|---|
| Computer and data processing services | $45,800 |
| Periodicals | 42,560 |
| Newspapers | 37,560 |
| Books | 37,550 |

**Related Occupations**

Writers and editors communicate ideas and information. Other communications occupations include announcers; interpreters and translators; news analysts, reporters, and correspondents; and public relations specialists.

**Sources of Additional Information**

For information on careers in technical writing, contact:

➤ Society for Technical Communication, Inc., 901 N. Stuart St., Suite 904, Arlington, VA 22203. Internet: **http://www.stc.org**

For information on union wage rates for newspaper and magazine editors, contact:

➤ The Newspaper Guild-CWA, Research and Information Department, 501 Third St. NW., Suite 250, Washington, DC 20001.